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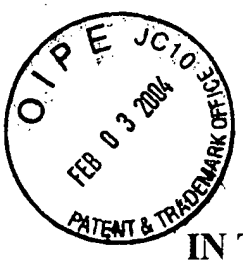


RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 3641

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF:
Inventor : Mitchell R. Swartz

Serial no. 09/750, 480

Filed: 12/28/00
For: **METHOD AND APPARATUS TO MONITOR LOADING USING VIBRATION**
This is a continuation of Serial no. 07/371,937
Filed: 06/27/89

PAPER:
Group Art Unit: 3641

Examiner: R. Palabrica

January 28, 2004

Commissioner for Patents
Alexandria, VA 22313-1450

To Whom it Does Concern:

Office of the Clerk
Board Of Patent Appeals
c/o The Commissioner for Patents
Alexandria, VA 22313-1450

PETITION TO THE COMMISSIONER PURSUANT TO 37 C.F.R. 1.181

1. This Petition is made pursuant to 37 C.F.R. 1.181 to the Commissioner of Patents, and is made to invoke his supervisory authority to correct the situation with respect to the recent Office Communication [Exhibit "A" attached, mailed 11/18/03, and as described below]. Pursuant to 37 C.F.R. 1.181, there is no fee. This Petition

is reasonable, based upon the reasons stated below and confirmed by the facts as discussed in the Declaration supporting this Petition.

2. In the discussion below, reference is made to the Declaration of Dr. Mitchell Swartz (hereinafter called the "Swartz Declaration") dated January 28, 2004. It will be demonstrated that this Petition is reasonable because of Mr. Carone's failure to be accurate and his systematic failure to follow a uniform standard of review.

3. Applicant received the Office's Communication written and dated 1/4/04, listed as mailed on 1/13/04, and mailed on 1/14/04 [cover as Exhibit "1", attached; and hereinafter simply referred to "Communication of 1/13/04"].

4. Said office communication purports Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, "as failing to comply with the enablement requirement". Claims l-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by JP-06-018683. Claims 8-20 are rejected under 35 U.S.C.103(a) as being unpatentable over JP 06-018683 in view of any one of Wang et al. (U.S. 5,495,767), Steinlecher et al. (U.S. 5,883,715) or Zang et al. (U.S. 5,838,439). Pursuant to In re Oetiker, Applicant hereby does respond in full to each of the Examiner's points,in detail below. The Office's Communication of 1/13/04 is inconsistent with the Office's previous actions as will be discussed below. The Office's Communication of 1/13/04 does not comply with several of the Office's rules as will be discussed below. The Office's Communication of 1/13/04 contains misstatements that are hereby corrected for the record.

5. In the following, this Petition is also supported by several Declarations and documents already in the record including the *Amicus Curiae* Brief of Talbot Chubb [Exhibit "'14", 2/22/01], *Amicus Curiae* Brief of Drs. Edmund Storms [Exhibit "'10", 2/21/01], Averment 4 in the *Amicus Curiae* Brief of Mr. Rotegard [Exhibit "'12", 2/21/01], Pages 4 through 8 in *Amicus Curiae* Brief of Thomas Valone [Exhibit "'11", 2/24/01], and pages 2-5 in the Straus Declaration [Exhibit "'8", November 27, 1992].

6. The Examiner states,

"3. On the issue of new matter, the Examiner identified examples of differences between the parent application (S/N 07/371,937) and the current application. Applicant's argument that the new matter was the result of the restriction requirement made by a previous Examiner is irrelevant. The issue is whether or not there is new matter in the current application. Also, applicant himself admits, for example, that the term, "loading", in the current application has a different meaning than the term, "electrochemically nuclear fusion" in the parent application (see page 8 of 11 /28/03 of Amendment). Therefore the current application does not qualify as a continuation of the parent and is only entitled to the priority of its filing date of 12/28/2000. Accordingly, the Examiner will address only those substantive items of the traverse that are consistent with the 12/28/2000 filing date."

The Truth - The Examiner Has Been Substantively Unresponsive, This Was Discussed Previously

The Examiner is wrong, and appears disingenuous, for several reasons. First, "loading" was discussed in the original specification of the parent application (S/N 07/371,937) as discussed below. It was discussed by Examiner Wasil [Exhibit "2"].

Second, "loading" was discussed in the original claims of the parent application (S/N 07/371,937) as discussed below.

Third,. "loading" was discussed in the Appeal Brief to the Board in the parent application (S/N 07/371,937), as shown in Exhibit "3".

Fourth, "loading" was discussed in the Appendix to the Federal Court in the parent application (S/N 07/371,937), as shown in Exhibit "4".

Fifth, this has been substantively unresponsive because this was in the original specification. Corroborating this, as was discussed in detail in the previous Communication from the Applicant to the Examiner on pages 7 through 10, the Applicant wrote the following comment,

"THE TRUTH - Examiner Wasil, the Record, the Court disagree with the Examiner

The Examiner is either inaccurate or disingenuous. With all due respect, this is NOT new material. The "and" results from the previous Examiner, Mr. Daniel Wasil. The near identical specification and near identical drawings of Serial no. 07/371,937 have already gone through a restriction by the Primary Examiner Daniel Wasil. Mr. Wasil separated 07/371,937 into three inventions. As Exhibit C demonstrates, the record proves that this has been concluded. Invention 1 involves "an apparatus and method for producing a vibrational frequency of a cathode". Invention 3 involves "an apparatus and method for accelerating nuclear fusion reactions".

Invention 1 - "for producing a vibrational frequency of a cathode".

Invention 3 - "for accelerating nuclear fusion reactions".

The above-entitled invention is Invention #1. Therefore, the wording and scope of the Continuation ['480] fully maintain the wording and scope of the original disclosure and claims."

[from Applicant's previous Communication to the Examiner]

Thus, it can be seen that the loading of '480 was exactly, specifically, and precisely described in '937. The Applicant is accurate, whereas the Examiner is not.

Where is the Examiner's substantive response to Exhibit "2"? Attention is now directed to the fact that said comments in Applicant's Communication have simply been ignored by the Examiner. The Commissioner, and Court, should note that the Examiner did not cite Applicant's arguments, nor did the Examiner discuss Applicant's arguments, nor did the Examiner rebut Applicant's arguments. Therefore it is impossible to tell how the Examiner weighed Applicant's arguments, there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. Because the Examiner was requested to answer and respond with specificity, therefore, given the above, the Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant.

Specifically, the Applicant hereby requests to know the authority, or scientific basis, or any basis whatsoever, which allows the Examiner to dismiss the Argument that,

"Mr. Wasil separated 07/371,937 into three inventions. ... Invention 1 involves "an apparatus and method for producing a vibrational frequency of a cathode".

7. Also ignored by the Examiner is the following argument and extensive details (cited with precision from Declarations) by the Applicant,

""S.N. 07/371,937 [presently S.N 09/750,480 as a Continuation (hereinafter '480)] teaches means to monitor loading by a vibration frequency of the loaded material. The cited issues are discussed fully therein. The invention is a method for monitoring a fuel located within ("loaded") a material, like a sponge fills with water. The method uses a vibration of the material. The invention [Appl. 07/371,937, Appendix to 00-1107 as pages Appendix 160-189, hereinafter A160-189] solves the long-standing problem of measuring the loading remotely and non-invasively - features of great utility. The original disclosure taught the preferred embodiment, the vibrational cathode (A166-A167), monitoring subsystems (A168-A170), viscosity, damping, surface materials (A169), and coupling to a large mass. The equations of motion conform to known physics (A170-A173). The teachings in the original specification included an analysis of the vibratory motion, with discussion of the impact of loading, solution viscosity, and damping, conforming to known physics (A170-A173)."

[from Applicant's previous Communication to the Examiner]

Where is the Examiner's substantive response because loading was discussed in the Decision [Exhibit "5"]?

Where is the Examiner's substantive response because loading was even discussed in the Remand to the Examiner [Exhibit "6"]?

8. Where is the Examiner's substantive response to the cited Original Specification? Ignored by the Examiner is the following argument by the Applicant,

> **"Matters of hydrogen loading ... were discussed explicitly in the original specification, of which this application is the Continuation."**
>
> [from Applicant's previous Communication to the Examiner]

Attention is directed to the unfortunate fact that said comment in Applicant's Communication has simply been ignored by the Examiner -- despite the indelible truth, to wit: Loading was discussed a number of times in the original specification of which this application is a Continuation. For example, on page 3 of the original specification of which this application is a Continuation, the inventor wrote,

> **"Third, present methods to monitor the changes of deuterium loading into palladium (and other metals) are made difficult in that the material must be removed from the fusion chamber, thereby not only stopping the reaction, but also cross-contaminating both the cathode and the laboratory."**
>
> [Original Specification, SN 07/371,937]

Therein, the Applicant stated that the purpose of the invention is "**to monitor the changes of deuterium loading into palladium**" and as shown above, loading is explicitly mentioned, despite the Examiners statement. Furthermore, said original specification teaches that said loading changes the mass. The application teaches, and continues, that this provides means to monitor the changes in cathodic mass. This is explicitly introduced on page 1 of the original specification of which this application is a Continuation.

There, the inventor wrote - separating the reactions from the vibrations,

> **"The system includes a novel cathode able to vibrate at a natural frequency, means to drive said frequency, and means to monitor said frequency, means to relate frequency changes to changes in the cathodic mass which herald said fusion reactions."**
>
> [Original Specification, SN 07/371,937]

The Examiner, Board, and Court should note that the original specification states that the vibrations herald the reactions ... meaning that they are NOT the reactions, as the Examiner demands, but that they herald said reactions, as the original specification stated.

9. Further supporting the Applicant, and destroying the Examiner's false allegation, "loading" is further explicitly discussed, despite the false allegation by the Examiner on page 5 of the original specification of which this application is a Continuation, the inventor wrote,

> **"The repetitive cut-off of the optical beam occurs due to the physical displacement of the cathode during an oscillation as described herein. These oscillations may occur during the loading of said cathode, or may occur periodically."**
>
> [Original Specification, SN 07/371,937]

In addition, supporting the Applicant, "loading" is further explicitly discussed, despite the false allegation by the Examiner on page 13 of the original specification of which this application is a Continuation, in the Table, where the inventor wrote,

> **"TABLE 2 - DERIVED VIBRATION FREQUENCIES OF VIBRATING CATHODE (Normalized to both the initial frequency and mass of said cathode, before loading with deuterons)**
>
> [Original Specification, SN 07/371,937]

Furthermore, the original specification continues to be consistent with this, too, because on page 14 of the original specification of which this application is a Continuation, the inventor wrote and claimed,

> **"A system to monitor and accelerate electrochemically induced nuclear fusion reactions, The system includes a novel cathode able to vibrate at a natural frequency, means to drive said frequency, and means to monitor said frequency, means to relate frequency changes to changes in the cathodic mass which herald said fusion reactions.**
>
> [Original Specification, SN 07/371,937]

Thus, it can be seen in the record, that "loading" is taught in the original specification, SN 07/371,937, and that such loading or filling --as taught therein-- further changes the mass, leading to the present invention which monitors said loading.

NOTA BENE: Loading is mentioned several times in the original specification. Why does, or would, the Examiner state otherwise?

10. It can be seen in the record, further corroborating the Applicant, and again definitively proving the Examiner wrong, the previous Examiner, Mr. Wasil, separated the invention by his restriction. The Applicant has abided by that, however, the present Examiner and his supervisors are attempting to force double

patenting for reasons unclear at this time. Where is the Examiner's response to the fact that Mr. Daniel Wasil, an honorable person, restricted Serial no. 07/371,937 into three inventions. Invention 1 involves "an apparatus and method for producing a vibrational frequency of a cathode". The above-entitled invention is Invention #1. Applicant preserves the right of Petition or, in the alternative, or a complaint in a Federal Court. The standards of review require the Examiner to explain precisely and substantively why he disagrees.

11. The Examiner is incorrect. Loading is mentioned several times in the original specification. Loading was discussed in every aspect of the record. Why does the Examiner disingenuously state otherwise? How is there equal justice under the Law? Where has there been a uniform standard of review? The claims are directly from the original specification, and claim exactly that which Examiner Wasil explicitly stated was the invention. The original specification of the above-entitled application, in communications with Examiner Daniel Wasil, describes Invention 1 which involves "an apparatus and method for producing a vibrational frequency of a cathode". The wording and scope of the claims maintain the wording and scope of the original disclosure and claims. Where is the explanation of why Applicant's Communication has been ignored by the Examiner. Therefore it is impossible to tell how the Examiner weighed any of Applicant's arguments. There is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. Furthermore, because the Examiner was requested to answer and respond with specificity, the Examiner has apparently ignored the Office rules, and expectations of reasonable people, and has defied the laws and regulations of the Patent Office. The Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response.

Therefore, the Applicant requests that the Examiner reconsider because the Examiner's response is demonstrated to be inconsistent with the Office's previous actions and the record and the affiants. The Applicant requests that the Examiner explain reason for his statement if he disagrees.

12. The Examiner states,

"4. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention."

The Truth - The Examiner Has Been Substantively Unresponsive, This Was Discussed Previously

The Examiner has been unresponsive to Applicant's arguments even though they were fully discussed in significant detail in the previous Communication from the Applicant to the Examiner on pages 11 through 15. For example, in said Communication, the Applicant took the time to respond to the Examiner and wrote the following comments and questions.

"PURPORTED INDEFINITENESS

It is disingenuous for the Examiner to claim there is indefiniteness in the light of the many missives with the previous Examiner, Daniel Wasil, and in the light of the peer-reviewed cited publication, and in the light of the Declarants, affiants, and Amicus Curiae who are skilled-in-the-art, and especially in the light of the federal court [In re Swartz 00-1107] which had no trouble understanding the invention.

"... (I)ndefiniteness in claim language is of semantic origin" [In re Hammack, 427 F.2d 1384 n.5, 166 USPQ 209 n.5 (CCPA 1970)]

and indefiniteness is the opposite of definiteness. Applicant has fully complied with the definiteness requirement of the second paragraph of 35 U.S.C.§112. The original specification and claim adequately presented the claimed invention so that an artisan, or those skilled in the art, could practice it without undue experimentation [In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed.Cir.1988)]. Definiteness is a characteristic of a patent claim in which claim language makes the scope of the claim clear to a person skilled in the art to which the invention pertains [MPEP 2173, MPEP 2173.02, MPEP 2173.05(a)]). Pursuant, to MPEP 2173, Applicant claimed with particularity, and did point out and distinctly claim the invention. Applicant's claims are therefore definite because the claims are precise, clear, correct, and unambiguous to a person skilled-in-the-art and, therefore, there was definiteness because the specification did conclude claims particularly pointing out and distinctly claiming the subject matter."

18. Also ignored by the Examiner is the following argument, and request, by the Applicant citing Ex parte Ionescu,

"DEFINITENESS BECAUSE OF CITED ISSUES ADDRESSED

16. 35 U.S.C. 112, second paragraph requires the Examiner had to provide reasons why the terms in the claims and/or scope of the invention are unclear "in a positive and constructive way, so that minor problems can be identified and easily corrected, and so that the major effort is expended on more substantive issues." All definiteness issues are hereby addressed. If there are other issues with Claims 1-20, the Examiner is asked to with specificity and clarity further explain what the rejection is based on [Ex parte Ionescu, 222 USPQ 537, 539 (Bd. App. 1984)]. "

[from Applicant's previous Communication to the Examiner]

Attention is now directed to the fact that said comments in Applicant's Communication have simply been ignored by the Examiner. The Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response.

13. Also ignored by the Examiner is the following argument by the Applicant citing Ex parte Ionescu,

"17.There is definiteness because, supplementing the detailed specification, the Applicant submits further corroboratory expert testimony [Ex parte Gray, 10 USPQ2d 1922, 1928 (Bd. Pat. App. & Inter. 1989)] including Declarations and Amicus Curiae Briefs --which must be reviewed carefully. The Examiner must accurately discuss the invention as it is actually taught in the original specification and claims. The claimed invention should be the focus of the definiteness requirement."

[from Applicant's previous Communication to the Examiner]

Attention is now directed to the fact that said comments in Applicant's Communication have simply been ignored by the Examiner.

Attention is now directed to the fact that the *Amicus Curiae* Brief of Talbot Chubb [Exhibit "'14", 2/22/01], *Amicus Curiae* Brief of Drs. Edmund Storms [Exhibit "'10", 2/21/01], Averment 4 in the *Amicus Curiae* Brief of Mr. Rotegard [Exhibit "'12", 2/21/01], Pages 4 through 8 in *Amicus Curiae* Brief of Thomas Valone [Exhibit "'11", 2/24/01], and pages 2-5 in the Straus Declaration [Exhibit "'8", November 27, 1992] have been ignored even though the affiants have probative value and even though the averments prove operability of the present invention. These could not have been made without definiteness.

Attention is now directed to the fact that the *Amicus Curiae* Brief of Drs. Edmund Storms [Exhibit "'10", 2/21/01], *Amicus Curiae* Brief of Hal Fox [Exhibit "'18", 5/8/02], *Amicus Curiae* Brief of Eugene Mallove [Exhibit '20", 5/8/02], Declaration of Scott Chubb [Exhibit "'15", 8/13/01], Declaration of Hal Fox [Exhibit "'16", 5/16/95], Declaration of Mr. Rotegard [Exhibit "'13", 5/15/94], Declaration of Hal Fox [Exhibit "'17", 8/14/01], Declaration of Eugene Mallove [Exhibit "'19", 5/6/94], and Straus Declaration of [Exhibit "'9", 5/22/94] have been ignored even though the affiants have probative value and even though the averments prove utility of the present invention. These could not have been made without definiteness.

It is impossible to tell how the Examiner weighed Applicant's arguments; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. The Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response.

14. Claims 1, 3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Masaaki (JP-06018683). For said rejection under 35 U.S.C. 102, the Applicant hereby does again fully and completely specify the errors in the rejection and the specific limitations in the rejected claims which are not described in the prior art relied on in the Office's rejection. Applicant also again explains how such limitations render the claimed subject matter novel over the prior art. As discussed below, several arguments were present to the Examiner who has ignored them substantively.

15. With all due respect, many of the cited references followed the present invention. The Examiner has been disingenuous that "loading" was not in the original specification. In fact, it was, as discussed above, and a Petition will be pending. In that light, and withstanding the Examiner's allegation, the applicant notes that the application Serial no. 07/ 371,937 --of which the present invention '480 is a continuation -- was filed 06/27/89. The date of Masaaki is March 7, 1992. Attention is directed to the fact that the present application, '480, precedes it; and therefore it is not relevant. Nonetheless, for argument's sake, and to demonstrate error in the Examiner's allegations, each will be discussed in detail.

16. The Examiner states,

"Masaski discloses an oscillating drive that facilitates fine-tuning of frequency of vibration. Knowledge of such frequency is necessary, e.g., to facilitate repeatability of operating conditions and results. Any one of the secondary references can provide the teaching for measurement of said frequency."

THE TRUTH - The Examiner Has Been Substantively Unresponsive, This was Discussed Previously

The Examiner has been unresponsive to Applicant's arguments even though they were fully discussed in significant detail in the previous Communication from the Applicant to the Examiner on pages 16 through 27. For example, in said Communication, the Applicant took the time to respond to the Examiner and wrote the following comments.

"Masaaki (06-018683) describes an oscillating electrode for normal temperature nuclear fusion which is very different from the present invention. JP-06-018683 --as it claims-- is simply an apparatus where the purpose of the oscillation is to "expanded the reaction area". Masaaki has a deuterium tank (18), a "negative electrode" (1) of "pure nickel plate plated with palladium or titanium". Masaaki resonates the electrode to increase the surface area. Masaaki says "the loss in the transmission of the vibration is limited thereby promoting normal temperature nuclear fusion". In Masaaki, hydrogen gas is generated. In Masaaki, there is no loading, no discussion of loading, and no measurement of loading. Furthermore, in Masaaki, there is no measurement of frequency change of the vibrating electrode from loading, and no change in the frequency of the vibration. The vibrating cathode of Masaaki is used for a different reason and there is no measurement of loading. Masaaki resonates the electrode to increase the surface area. This is in contrast to the present application and invention where the loading occurs within the cathode and where the vibrations are used to measure loading. Thus, Masaaki (06-018683) is located quite far from the present invention, and it is improper to compare JP-06-018683 to the present invention."

[from Applicant's previous Communication to the Examiner]

Attention is now directed to the fact that said comments in Applicant's Communication have simply been ignored by the Examiner. The Examiner did not cite Applicant's arguments, nor did the Examiner discuss Applicant's arguments, nor did the Examiner rebut Applicant's arguments. Therefore it is impossible to tell how the Examiner weighed Applicant's arguments; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. Because the Examiner was requested to answer and respond with specificity, the Examiner has apparently ignored the Office rules, and expectations of reasonable people, and has defied the laws and regulations arising from the US Constitution which led to the creation of the Patent Office. Therefore, given the above, the

Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response. Specifically, the Applicant hereby requests to know the scientific basis, or any basis which allows the Examiner to dismiss the Argument that,

"The vibrating cathode of Masaaki is used for a different reason and there is no measurement of loading. Masaaki resonates the electrode to increase the surface area. This is in contrast to the present application and invention where the loading occurs within the cathode and where the vibrations are used to measure loading."

17. The Examiner states,

"Applicant's claim language reads on the figures in JP-06-018683 as follows: a) "means to drive vibration" reads on line winding 10".

THE TRUTH - The Examiner Has Been Substantively Unresponsive, This was Discussed Previously

The Examiner has been substantively unresponsive because this was discussed in detail in the previous Communication from the Applicant to the Examiner on pages 17 through 19. For example, the Applicant wrote the following.

"Applicant's claim language does NOT read on the figures, or the text, or the claims, or the description, of JP-06-018683. In fact, the Examiner confuses simple differential equations. Does "means to drive vibration" really read on line winding 10? No. In fact, in the case of the '480, a single pulse is given and then the impulse response is followed. This is a far cry from a fixed frequency motor used in Masaaki (06-018683), cited by the Examiner. In 480, the single pulse, which is the "means to drive vibration" enables a frequency measurement which is the response of the electrode. Thus, in 480, the single pulse and the subsequent frequency measurement enables measurement of the electrode loading. In differential calculus, the natural frequency(ies) is(are) called the homogeneous response. By contrast, in Masaaki (06-018683), cited by the Examiner, e.g. vide supra, the line winding 10, and the other features, create the particular (or driven) response which is dominated by the equipment of Masaaki (06-018683). In differential calculus this is called the driven (or particular solution) response. The Examiner is referred to "Advanced Calculus For Applications, Second Edition" by Francis Hildebrand (1976). On pages 72 through 76, and also page 88, in the section entitled "Applications To Linear Differential Equations With Constant Coefficients", there is a discussion of the significant differences between forced vibrations of the cited art (oscillations actually, in said cited art) and the natural vibration of a loaded cathode as is discussed in the above entitled application. The examiner is specifically referred to equations 28 through 37b which reveal these mathematics well-known to those skilled in the art. In addition, the Examiner is referred to "Theoretical Mechanics: An Introduction To Mathematical Physics" (1929) by Joseph Ames and Francis Murnaghan. The examiner is specifically referred to pages 24 pages 124 to 139 for the well-known

differences between harmonic vibrations (especially page 129). In addition the Examiner is referred to "Analytical Mechanics" (1962) by Grant Fowles. The Examiner is specifically referred to pages 80 through 84 for that harmonic analytic physics which is well-known to those skilled in the art, but apparently not the Office. With respect to these harmonic motions resulting from restoring force, as discussed in the above-entitled application, the examiner is referred to pages 43 through 45. By contrast, with respect to forced harmonic motion discussed in the cited art, the examiner is also referred to pages 51 through 55. The examiner is referred to "Calculus And Analytical Geometry" (1951, and 1960) by George Thomas Jr. The examiner is particularly referred to pages 895 through 900. In summary, it is inaccurate for the examiner to substitute forced harmonic motion [with partial differential equations having a particular solution] and the above entitled application where there is a vibration characterizing the loaded electrode, which is observed by its natural frequencies."

[from Applicant's previous Communication to the Examiner]

Attention is now directed to the fact that said comments in Applicant's Communication have simply been ignored by the Examiner. It is impossible to tell how the Examiner weighed Applicant's arguments, there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. Because the Examiner was requested to answer and respond with specificity, given the above, the Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response. Specifically, the Applicant hereby requests to know the scientific basis, or any basis which allows the Examiner to dismiss the Argument that,

"In summary, it is inaccurate for the examiner to substitute forced harmonic motion [with partial differential equations having a particular solution] and the above entitled application where there is a vibration characterizing the loaded electrode, which is observed by its natural frequencies."

18. The Examiner states,

"6. Claims 1, 3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by JP-06 018683. This reference discloses a vibrating electrode apparatus for room temperature fusion comprising a palladium cathode that is resonantly vibrated. The vibrating cathode is electrochemically loaded with deuterium from an electrolyte containing said hydrogen isotope. Applicant's claim language reads on the figures in JP-06-018683 as follows:

b) "means to follow the frequency of vibration: reads on RF generator 11 that sets (i.e., "follows") the vibration frequency;

THE TRUTH - The Examiner Has Been Substantively Unresponsive, This was Discussed Previously

The Examiner has been unresponsive to Applicant's arguments even though they were fully discussed in significant detail in the previous Communication from the Applicant to the Examiner on pages 19 through 20. For example, in said Communication, the Applicant took the time to respond to the Examiner and wrote the following comments.

"Applicant's claim language does NOT read on the figures, or the text, or the claims, or the description, of JP-06-018683. Does "means to follow the frequency of vibration" really read on "RF generator 11 that sets (i.e., "follows") the vibration frequency"? No. In the case of the '480, a single pulse is given and then the impulse response is followed. The subsequent frequency measurement enables measurement of the electrode loading. This homogeneous response, again, is far from the driven system used in Masaaki (06-018683), inaccurately cited by the Examiner. The Examiner cites the "RF generator 11" which the Examiner correctly states that "sets" the vibration frequency. The Examiner is disingenuous when he metamorphoses this to claim that it "follows" the vibration frequency. In fact, Masaaki (06-018683) disagrees with the Examiner. The translation (assuming the Examiner's translation is even correct) states "11 is the AC power supply" which obviously DRIVES the vibration. In '480, the invention works by examination of "the homogeneous response". By contrast, in Masaaki (06-018683), the driven response yields no information about the electrode, but only gives information about the drive system."

[from Applicant's previous Communication to the Examiner]

Attention is now directed to the fact that said comments in Applicant's Communication have simply been ignored by the Examiner. It is impossible to tell how the Examiner weighed Applicant's arguments; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. Given the above, the Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response. Specifically, the Applicant hereby requests to know the scientific basis, or any basis which allows the Examiner to dismiss the Argument that,

"The Examiner cites the "RF generator 11" which the Examiner correctly states that "sets" the vibration frequency. The Examiner is disingenuous when he metamorphoses this to claim that it "follows" the vibration frequency. In fact, Masaaki (06-018683) disagrees with the Examiner. The translation (assuming the Examiner's translation is even correct) states "11 is the AC power supply" which obviously DRIVES the vibration. In '480, the invention works by examination of "the homogeneous response". By contrast, in Masaaki (06-018683), the driven response yields no information about the electrode, but only gives information about the drive system"

19. The Examiner states,

"6. Claims 1, 3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by JP-06 018683. This reference discloses a vibrating electrode apparatus for room temperature fusion comprising a palladium cathode that is resonantly vibrated. The vibrating cathode is electrochemically loaded with deuterium from an electrolyte containing said hydrogen isotope.

Applicant's claim language reads on the figures in JP-06-018683 as follows:

c) "second mass" reads on structure that is coupled to the vibrating cathode at its exterior.

THE TRUTH - The Examiner Has Been Substantively Unresponsive, This was Discussed Previously

The Examiner has been unresponsive to Applicant's arguments even though they were fully discussed in significant detail in the previous Communication from the Applicant to the Examiner on page 20. For example, in said Communication, the Applicant took the time to respond to the Examiner and wrote the following comment.

"Applicant's claim language does NOT read on the figures, or the text, or the claims, or the description, of JP-06-018683. Does "second mass" really read on "structure that is coupled to the vibrating cathode at its exterior"? No. In the case of the '480, the natural frequency of the electrode is used to determine, via the impulse response, the loading of said electrode. This homogeneous response, of the present invention (vide supra), is far from the driven system used in Masaaki (06-018683), yet again inaccurately cited by the Examiner.

As the original specification of '480 states (page 16),

"Yet another monitoring configuration involves the use of a second external mass coupled to the above cited large external mass. Forced mechanical vibration of said second external mass will eventually couple phonons to the cathode and thereby cause it to vibrate at its own natural frequency."

By contrast, the Masaaki structure that is coupled to the vibrating cathode at its exterior is used to hold the electrode and not drive it. Once again the Examiner confuses natural frequency and homogeneous response with clamp used to hold Masaaki's driven system.

Attention is now directed to the fact that said comment in Applicant's Communication has simply been ignored by the Examiner. The Examiner did not cite Applicant's arguments, nor did the Examiner discuss Applicant's arguments, nor did the Examiner rebut Applicant's arguments. Therefore it is impossible to tell how the Examiner weighed Applicant's arguments; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. Because the Examiner was requested to answer and respond with specificity, the Examiner has apparently ignored the Office rules, and expectations of reasonable people. Therefore, given the above, the Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response.

Specifically, the Applicant hereby requests to know the scientific basis, or any basis which allows the Examiner to dismiss the Argument that,

"In the case of the '480, the natural frequency of the electrode is used to determine, via the impulse response, the loading of said electrode. This homogeneous response, of the present invention (vide supra), is far from the driven system used in Masaaki (06-018683), yet again inaccurately cited by the Examiner. .. By contrast, the Masaaki structure that is coupled to the vibrating cathode at its exterior is used to hold the electrode and not drive it. Once again the Examiner confuses natural frequency and homogeneous response with clamp used to hold Masaaki's driven system."

20. The Examiner has been unresponsive to Applicant's arguments which the Applicant took the time to write to the Examiner, as in following comments and questions.

"The Examiner is wrong for several reasons. First, the invention at issue in this case, '480, is claimed by Claims 1-20, and is generally speaking a vibrating electrode, composed of a metal such as palladium which has internal filling ("loading") with hydrogen, which is monitored for its natural frequency to reveal information about the loading, *in situ,* and non-invasively. Second, '480 has elements which are nowhere in JP-06-018683, or in any combination of the Examiner's cited art. Second, the Examiner has ignored that in the present invention, additional techniques are used and features exist, unlike JP-06-018683. Third, JP-06-018683 includes none of the features of the present invention. Where in JP-06-018683 is the vibrational cathode of the present invention used to measure loading? It is shown in Figures 1,2,3, and 4 of the original specification of the above-entitled invention. It is not in JP-06-018683.

Where in JP-06-018683 is the optical interrogating beam or other method to investigate the frequency of the vibrational cathode? It is shown in Figures 1, 2 and 3 of the original specification of the above-entitled invention. They are not in JP-06-018683.

Where in JP-06-018683 is the optical beam (labeled as number 12 in Figure 1), or the optical irradiator subsystem (labeled as number 30), or the optical detection subsystem (labeled as number 31)? They are shown in Figures 1,2 and 3 of the original specification of the above-entitled invention. They are not in JP-06-018683. Where in JP-06-018683 is the laser (labeled as number 18), the transparent windows (labeled as number 17), or the optical irradiator subsystem and optical detection subsystem (labeled as numbers 30 and 31)? They are shown in Figures 1, 2 and 3 of the original specification of the above-entitled invention. They are not in JP-06-018683.

Where in JP-06-018683 is the optical lenses and/or beam splitters (labeled as number 19), or the detector subsystem, containing the optical detectors (e.g. a phototransistor (labeled as number 20), or the event detector (e.g. Schmidt trigger) to detect transitions (labeled as number 21), or the frequency counter (labeled as number 22)? They are shown in Figures 1,2 and 3 of the original specification of the above-entitled invention. They are not in JP-06-018683.

Where in JP-06-018683 is the lower large mass (labeled as number 11), or the "springy" material to alter the resonant frequency of the vibrating cathode (number 13), or the large mass (labeled as number 14) located outside of the reaction cell? They are not in JP-06-018683.

Where in JP-06-018683 is the modified cathode (labeled as number 1) with two sites on said cathode where platinum wires are attached (labeled as number 71 and 72 in Figure 5) which are used to create said intraelectrode additional electric field? Where in JP-06-018683 is the additional electric field internal to the loaded cathode, which in the present application is clearly shown in figure 5? They are not in JP-06-018683.

Where in JP-06-018683 is the teaching of controlling a volume within the loaded cathode using an additional electric field and an orthogonal applied magnetic field intensity as taught in the present invention? Where in JP-06-018683 is the applied magnetic field intensity orthogonal to the additional applied electric field? They are not in JP-06-018683. .... The Examiner has ignored the purposes and results, which are different. Masaaki (06-018683) is an oscillating electrode to have "expanded the reaction area". Masaaki resonates the electrode to increase the surface area. In Masaaki, there is no discussion of loading, and no measurement of loading. Furthermore, in Masaaki, there is no measurement of frequency change of the vibrating electrode from loading, and no change in the frequency of the vibration. In summary, the material of Applicant's invention, '480, does not read on JP-06-018683, as the

Examiner suggests. This present invention is novel and not anticipated by the cited art, JP-06-018683."

[from Applicant's previous Communication to the Examiner]

Attention is now directed to the fact that said comments in Applicant's Communication have simply been ignored by the Examiner. Attention is now also directed to the fact that the questions in Applicant's Communication have also been ignored by the Examiner. The Commissioner, and Court, should note that the Examiner did not cite Applicant's arguments, nor did the Examiner discuss Applicant's arguments, nor did the Examiner rebut Applicant's arguments. Therefore it is impossible to tell how the Examiner weighed Applicant's arguments; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. Because the Examiner was requested to answer and respond with specificity, the Examiner has apparently ignored the Office rules, and expectations of reasonable people, and has defied the laws and regulations arising from the US Constitution which led to the creation of the Patent Office. Therefore, given the above, the Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response. Specifically, the Applicant hereby requests to know the scientific basis, or any basis which allows the Examiner to dismiss the Argument that,

"The Examiner has ignored the purposes and results, which are different. Masaaki (06-018683) is an oscillating electrode to have "expanded the reaction area". Masaaki resonates the electrode to increase the surface area. In Masaaki, there is no discussion of loading, and no measurement of loading. Furthermore, in Masaaki, there is no measurement of frequency change of the vibrating electrode from loading, and no change in the frequency of the vibration."

21. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the "enablement requirement". With all due respect to the Examiners, statement, 35 U.S.C. 112, first paragraph involves issues the operability requirement. Together with utility, a legal judgment of enablement can then be determined.

De Jure Proof That The Examiner Is Wrong

Ignored by the Examiner is the following argument by the Applicant citing In re Oetiker,

> **"The Examiner ignores In re Oetiker, 977 F.2d at 1445, 24 USPQ2d at 1444 which requires the Examiner to substantively respond with a *prima facie* case of unpatentability. However, after the submission of Swartz, M., "Possible Deuterium Production From Light water excess enthalpy experiments using Nickel Cathodes", *Journal of New Energy*, 3, 68-80 (1996) ... and the Declarations, the burden shifts back to the Office and can only discharged by the Examiner "presenting evidence or reasons why persons skilled-in-the-art would not recognize in the disclosure a description of the invention defined by the claims" [Wertheim, 541 F.2d at 263, 191 USPQ at 97]. Applicant asks that this be done with specificity, substantivity, and with explicit reference, and in detail with full findings of fact. ...**
>
> **"The Examiner should closely consider the *de jure* evidence including M Swartz, M., "Possible Deuterium Production From Light water excess enthalpy experiments using Nickel Cathodes", *Journal of New Energy*, 3, 68-80 (1996) which demonstrate(s) enablement at the time of the initial filing because validation only comes through peer-review."**
>
> [from Applicant's previous Communication to the Examiner]

Attention is now directed to the fact that said comments in Applicant's Communication have simply been ignored by the Examiner. Therefore it is impossible to tell how the Examiner weighed Applicant's arguments; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. The Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response when *Journal New Energy*, 1, 3, 68-80 (1996) which absolutely proves Applicant was correct on the filing date of the application [In re Hogan, 559 F.2d 595, 60S, 194 USPQ 527, 537 (CCPA 1977)].

De Facto Proof That The Examiner Is Wrong

22. The Examiner is the following argument by the Applicant citing the *de facto* evidence and testimony of the Declarants,

> **"The Examiner should closely consider the *de facto* evidence and accept the testimony of the Declarants, skilled-in-the-art, who dispute the Examiner and attest to conformation with 35 U.S.C.§101. "**
>
> [from Applicant's previous Communication to the Examiner]

As one example, attention is now directed to the previous Communication from the Applicant which said (but was ignored, as usual),

> **"Straus (A44-A48) and Swartz (A18-A43) contained factual statements directly addressing how the specification adequately described the subject matter recited in the claims of S.N 09/750,480 and demonstrate that it operates as stated. They also herald that a person of ordinary skill in the art would have understood the inventor to have been in possession of the claimed invention at the time of filing. Simply put, the post-filing references establish that, as of the filing date, one of skill-in-the-art could use a method to monitor a vibrating electrode without undue experimentation."**
>
> [from Applicant's previous Communication to the Examiner]

Operability was demonstrated and corroborated by declarations and testimony of individuals with "ordinary skill-in-the-art" which were, and are again, supplied, refuting the Examiner's (unsupported) position. Said Declarations included facts showing why the publications cited should not bar the grant of a patent to the inventor or the confirmation of the patentability of the claims of the patent. Applicant showed due diligence, and all Exhibits, and Declarations were satisfactorily explained. [24 FR 10332, Dec. 22, 1959; 34 FR 18857, Nov. 26, 1969; para.(a), 48 FR 2713, Jan. 20, 1983, effective Feb. 27, 1983; para. (a), 50 FR 9381, Mar. 7, 1985, effective May 8, 1985; 50 FR 11366, Mar. 21, 1985; 53 FR 23733, June 23, 1988, effective Sept. 12, 1988; para. (a)(1) revised and para. (a)(2) added, 60 FR 21043, May 1, 1995, effective May 31, 1995]. **The Straus declaration, and others, contained statements of fact directly addressing the issue of whether the specification adequately described the subject matter recited in the claims, whether it operated as stated, and whether a person of ordinary skill in the art would have understood the inventor to have been in possession of the claimed invention at the time of filing.** As such said Declarations contain averments regarding evidence establishing the utility, validation, and operability of the present subject matter. Specifically, the Declarations demonstrate that with respect to vibration of the electrode -- the present invention works [For example, confer pages 6-10, 19-21 in the Swartz

Declarations of September 8, 1992, and pages 2-5 in the Straus Declaration of November 27, 1992]. The Straus, Swartz, and other Declarations demonstrated teachings of the vibrational modes of the electrode as objective evidence regarding utility and enablement as explicitly taught in the original specification and claims. Thus, the Declarations, specifically provided as evidence supporting the Applicants position, have proven that an adequately written description requirement is met and they precisely refute the Decision's statements which are erroneous on these issues of operability and utility. Both enablement and validation have been shown by Declarations. Given that understanding this was sufficient for the Declarants, where is the Examiner's substantive response to Applicant's cited Declarations? Applicant specifically now cites the Swartz declaration, the Declaration of Straus (4/22/94), and the *Amicus Curiae* Briefs of Drs. Edmund Storms (2/21/01), Talbot Chubb (2/22/01), Eugene Mallove (3/24/00) and Hal Fox (2/21/01) and requests the Examiner's response with specificity.

Attention is now directed to the fact that the *Amicus Curiae* Brief of Talbot Chubb [Exhibit '"14", 2/22/01], *Amicus Curiae* Brief of Drs. Edmund Storms [Exhibit '"10", 2/21/01], Averment 4 in the *Amicus Curiae* Brief of Mr. Rotegard [Exhibit '"12", 2/21/01], Pages 4 through 8 in *Amicus Curiae* Brief of Thomas Valone [Exhibit '"11", 2/24/01], and pages 2-5 in the Straus Declaration [Exhibit '"8", November 27, 1992] have been ignored even though the affiants have probative value and even though the averments prove operability of the present invention.

Where is the Examiner's substantive response?

Attention is now directed to the fact that said comments in Applicant's Communication have simply been substantively ignored by the Examiner. Therefore it is impossible to tell how the Examiner weighed Applicant's arguments; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. The Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response.

23. Also ignored by the Examiner is the following argument by the Applicant citing In re Wands citing with approval Ex parte Forman,

"Furthermore, a method to reveal information about the loading, *in situ*, and non-invasively using a vibrating electrode, composed of a metal such as palladium which has internal filling ("loading") with hydrogen, which is monitored for its natural frequency, as was presented in the original specification and claims so that an artisan, or those skilled in the art, could practice it without undue experimentation [In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988), citing with approval Ex parte Forman, 230 USPQ 546, 547 (Bd. Pat. App. & Int. 1986)]. Applicant has now demonstrated that his invention as claimed was, and is, adequately described to one skilled-in-the-art. Said Declarations are sufficient in their factual content with respect to the significant evidence, and prove that the Examiner is in clear error. By submitting said peer-reviewed publications, showing the Applicant is correct, and said Declarations containing relevant facts by probative witnesses, the Applicant has now undertaken the full burden coming forward with his evidence as required [In re Oetiker, 977 F.2d at 1445, 24 USPQ2d at 1444]. "

[from Applicant's previous Communication to the Examiner]

Attention is now directed to the fact that said comments in Applicant's Communication have simply been ignored by the Examiner. Therefore it is impossible to tell how the Examiner weighed Applicant's arguments; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. The Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response.

The Declarations factually demonstrate proof of operability and utility - that is, enablement, and Applicant has the right to submit them.

"AFFIDAVITS OVERCOMING REJECTIONS 1.131 (a)(1) When any claim of an application or a patent under reexamination is rejected .... on reference to a foreign patent or to a printed publication, the inventor of the subject matter of the rejected claim ... may submit an appropriate oath or declaration to overcome the patent or publication."

24. The Declarations demonstrate that with respect to vibration of the electrode -- the present invention works (A18-A43, A44-A48) as explicitly taught in the original specification and claims. As such, said Declarations contain averments regarding evidence establishing the utility, validation, and operability of the Applicant's claimed subject matter. Said Declarations and almost four hundred references, constitute a *bona fide* case. They demonstrate validation, operability, and utility of the Applicant's claimed subject matter as correctly taught in the original specification and claims regarding said monitored vibrating electrode. Straus (A44-A48) and Swartz (A18-A43) contained factual statements directly addressing how the specification adequately described the subject matter recited in the claims of S.N 09/750,480 and demonstrate that it operates as stated. They also herald that a person of ordinary skill in the art would have understood the inventor to have been in possession of the claimed invention at the time of filing. They substantially, extensively, and fully address matters and all issues that are criticized by the Office. The Declarations contain factual statements directly addressing how the specification adequately described the subject matter recited in the claims. They demonstrate that a person of ordinary skill in the art would have understood the inventor to have been in possession of the claimed invention at the time of filing, and that the invention operates as stated, and as explicitly taught in the original specification and claims. The Declarations prove that the Applicant taught in the original specification and claims how his apparatus works and claimed the invention.

Applicant asks the Examiner to please reconsider this matter, or explain his deviation from In re Jolles, and his ignoring the submitted Declarations and Exhibits.

25. The Examiner states,

"There is neither an adequate description not enabling disclosure of the parameters of a specific operative embodiment of the invention, including ... mechanical means to support the cathode at a pivot point, etc. ... (Applicants arguments in his traverse have been fully considered but found unconvincing. Applicant has not incorporated by reference the applications that allegedly contain the above subject matter)."

THE TRUTH -

The Examiner has been unresponsive to Applicant's arguments even though they were fully discussed in significant detail in the previous Communication from the Applicant to the Examiner. For example, in said Communication, the Applicant took the time to respond to the Examiner and wrote the following comments and questions.

Attention is now directed to the fact that the "mechanical means to support the cathode at a pivot point" is shown, and in Figure 1 it is shown as a suspension, in the original specification. It is shown in Figure 2, as well. Also conveniently ignored by the Examiner are the large external mass (labeled as number 14) and bolts (labeled as number 15) which stabilize that suspension.

Does it matter that the Examiner is leads away from the original specification and claims. Apparently not. Therefore, given the above, the Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response.

26. The Examiner states,

"There is neither an adequate description not enabling disclosure of the parameters of a specific operative embodiment of the invention, including ... dimensional ratio of electrodes to their spacing (i.e., sizes of anode and cathode relative to the space between them), .. (Applicants arguments in his traverse have been fully considered but found unconvincing. Applicant has not incorporated by reference the applications that allegedly contain the above subject matter)."

THE TRUTH - The Examiner Has Been Substantively Unresponsive, This was Discussed Previously

This is unfair for several reasons. First, the Examiner has been unresponsive to Applicant's arguments even though they were fully discussed in significant detail in the previous Communication from the Applicant to the Examiner. For example, in said Communication, the Applicant took the time to respond to the Examiner and wrote the following comments and questions, because the very question does not make sense. The Applicant said,

"What is the "*dimensional ratio of electrodes*"? What are the units of an "electrodes"? Could the Examiner mean the "size" of the electrode? Or does he mean weight? or does he mean Reynolds number? The Examiner is harassing the Applicant because the Examiner's comment has nothing to do with the present invention, a method of monitoring vibrational normal modes (i.e.. frequencies) of an electrode.

[from Applicant's previous Communication to the Examiner]

Second, attention is now directed to the fact that said comments in Applicant's Communication have simply been ignored by the Examiner. Attention is now also directed to the fact that the questions in Applicant's Communication have also been ignored by the Examiner. The Examiner did not answer Applicant's scientific argument. Therefore it is impossible to tell how the Examiner weighed Applicant's scientific argument; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. Therefore, given the above, the Applicant hereby requests to know the scientific basis, or any basis which allows the Examiner to dismiss the Argument that,

"What is the "*dimensional ratio of electrodes*"? What are the units of an "electrodes"? Could the Examiner mean the "size" of the electrode? Or does he mean weight? or does he mean Reynolds number?"

27. The Examiner states,

"There is neither an adequate description not enabling disclosure of the parameters of a specific operative embodiment of the invention, including ... surface area-to-volume requirement for the reactor... (Applicants arguments in his traverse have been fully considered but found unconvincing. Applicant has not incorporated by reference the applications that allegedly contain the above subject matter)."

THE TRUTH - The Examiner Has Been Substantively Unresponsive, This was Discussed Previously

The Examiner has been unresponsive to Applicant's arguments even though they were fully discussed in significant detail in the previous Communication from the Applicant to the Examiner. For example, in said Communication, the Applicant took the time to respond to the Examiner and wrote the following comments and questions.

"What is the " *surface area-to-volume requirement for the reactor"* in this context and exactly what does it have to do with a method of monitoring vibrational normal modes (ie. frequencies) of an electrode? Nothing. The Examiner's comment again has nothing to do with the present invention, a method of monitoring vibrational normal modes (ie. frequencies) of an electrode. The Examiner is harassing the Applicant for reasons unclear.

[from Applicant's previous Communication to the Examiner]

Attention is directed to the fact that said comments in Applicant's Communication have simply been ignored by the Examiner. Attention is now also directed to the fact that the questions in Applicant's Communication have also been ignored by the Examiner. The Examiner did not cite Applicant's scientific argument. Therefore it is impossible to tell how the Examiner weighed Applicant's scientific argument; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. Therefore, given the above, the Applicant hereby requests to know the scientific basis, or any basis which allows the Examiner to dismiss the Argument that,

"What is the " *surface area-to-volume requirement for the reactor"* in this context and exactly what does it have to do with a method of monitoring vibrational normal modes (ie. frequencies) of an electrode?"

28. The Examiner states,

"There is neither an adequate description not enabling disclosure of the parameters of a specific operative embodiment of the invention, including ... length of time the process has to carried out ... (Applicants arguments in his traverse have been fully considered but found unconvincing. Applicant has not incorporated by reference the applications that allegedly contain the above subject matter)."

This is unfair for many reasons. First, the Examiner has been unresponsive to Applicant's arguments even though they were fully discussed in significant detail in the previous Communication from the Applicant to the Examiner. For example, in said Communication, the Applicant took the time to respond to the Examiner and wrote the following comment.

"THE TRUTH - Nonscientific Requirement By Examiner
If the Examiner wants to know the "*... length of time the process has to carried out*", he reveals that he does know how a measurement device, or even a thermometer works after equilibrium. Once loading is achieved, the measurement can be made. What does the "*length of time the process has to (sic) carried out*" have to do with a vibrational normal mode measurement of loading? Nothing. The Examiner is patently harassing the Applicant."

[from Applicant's previous Communication to the Examiner]

Attention is now directed to the fact that said comment in Applicant's Communication have simply been ignored by the Examiner. Attention is now also directed to the fact that the question in Applicant's Communication have also been ignored by the Examiner. Therefore it is impossible to tell how the Examiner weighed Applicant's arguments; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. Applicant hereby again requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response. Specifically, the Applicant hereby requests to know the scientific basis, or any basis which allows the Examiner to dismiss the Argument that, "What does the "*length of time the process has to (sic) carried out*" have to do with a vibrational normal mode measurement of loading? Nothing. The Examiner is patently harassing the Applicant by use of a word processor.

29. The Examiner states,

"5. Claims 1-20 are rejected under 35 U.S.C. 101 because the claimed invention as disclosed is inoperative and therefore lacks utility. The reasons that the inventions as disclosed is inoperative are the same as the reasons set forth in sections 3 and 4 above and the reasons set forth in sections 3 and 4 above are accordingly incorporated herein."

THE TRUTH - The Examiner Has Been Substantively Unresponsive, This was Discussed Previously

The Examiner is wrong for several reasons. First, the citations are wrong. Second, the citations made by the examiner are themselves void of reason, precision and substance, as discussed above. Third, the examiner remains substantively unresponsive to Applicant's arguments even though they were fully discussed in significant detail in the previous Communication from the Applicant to the Examiner on pages 91 through 100. For example, in said Communication, the Applicant took the time to respond to the Examiner and wrote the following comments and questions. To begin, the citations are wrong, and are void of reason. The Examiner refers to #4, but #4 states that "Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention". This is false as discussed above. The Examiner also refers to #3, but #3 states that "Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the (invention)." This, too, is false as discussed above.

Even more importantly, the Examiner has been unresponsive to Applicant's arguments even though they were fully discussed in significant detail in the previous Communication from the Applicant to the Examiner on pages 91 through 100. For example, in said Communication, the Applicant took the time to respond to the Examiner and wrote the following comments and questions.

"... the Examiner must consider those skilled-in-the-art who oppose and counter the rejection under 35U.S.C.§101. Third, the Examiner points to out art not involving this Application. However, validation occurs when scientists actually skilled, and working, in the state-of-the-art state it to be so. These are scientists who research and actually write the current scientific technical papers which undergo peer-review, file patent applications, and attend international conferences (which have gone on for thirteen years). They absolutely disagree with the Examiner on this. Fourth, and most importantly, there is reputable evidence of record to indicate the invention has been reduced to the point of providing an operative cold fusion. system. Fifth, the Claims clearly define subject matter of considerable utility because energy needs dominate, and are critical to the economy."

[from Applicant's previous Communication to the Examiner]

Attention is now directed to the fact that said arguments in Applicant's Communication have simply been ignored by the Examiner. Therefore it is impossible to tell how the Examiner weighed Applicant's arguments; there is absolutely no way for the Applicant to present the Examiner's reasons for rejection to the Board of Appeals. Therefore, given the above, the Applicant hereby requests to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response.

The Applicant also hereby requests to know the scientific basis, or any basis, in the light of the Declarations which allows the Examiner to dismiss the *Amicus Curiae* Brief of Talbot Chubb [Exhibit "'14", 2/22/01], *Amicus Curiae* Brief of Drs. Edmund Storms [Exhibit "'10", 2/21/01], Averment 4 in the *Amicus Curiae* Brief of Mr. Rotegard [Exhibit "'12", 2/21/01], Pages 4 through 8 in *Amicus Curiae* Brief of Thomas Valone [Exhibit "'11", 2/24/01], and pages 2-5 in the Straus Declaration [Exhibit "'8", November 27, 1992] have been ignored even though the affiants have probative value and even though the averments prove operability of the present invention.

30. The Examiner states,

"Applicant cites declarations that allegedly demonstrate proof of operability and enablement. The submitted declarations have been fully considered but found unconvincing because of one or more of the following reasons:

c) They were submitted in support of a different application, have been previously considered on appeal, and applicant's petition denied (e.g., Mallove, Verner, and Straus). Additionally, the applicant did not establish the relevance of these declarations to the current application."

The Examiner has not presented any argument of substance, precision regarding the basis and authority of his ignoring said submitted declarations by the Office, any of them. In fact, the submitted declarations are convincing to one who is not biased. Attention is directed to the fact that the declarants and the Communications from the Applicant to the Office each explained why their statements are relevant, and why said statements pertain to the Examiner's (erroneous) rejections.

In addition, despite the above statement by the Examiner, the declarations were submitted with discussion of how they have relevance to the current application and the behavior of the Office.

Attention is now directed to the fact that the *Amicus Curiae* Brief of Talbot Chubb [Exhibit "'14", 2/22/01], *Amicus Curiae* Brief of Drs. Edmund Storms [Exhibit "'10", 2/21/01], Averment 4 in the *Amicus Curiae* Brief of Mr. Rotegard

[Exhibit "'12", 2/21/01], Pages 4 through 8 in *Amicus Curiae* Brief of Thomas Valone [Exhibit "'11", 2/24/01], and pages 2-5 in the Straus Declaration [Exhibit "'8", November 27, 1992] have been ignored even though the affiants have probative value and even though the averments prove operability of the present invention.

As one example, attention is now directed to the previous Communication from the Applicant which said (but was ignored, as usual),

> **"Said Declarations and almost four hundred references, constitute a *bona fide* case. They demonstrate validation, operability, and utility of the Applicant's claimed subject matter as correctly taught in the original specification and claims regarding said monitored vibrating electrode. Straus (A44-A48) and Swartz (A18-A43) contained factual statements directly addressing how the specification adequately described the subject matter recited in the claims of S.N 09/750,480 and demonstrate that it operates as stated. They also herald that a person of ordinary skill in the art would have understood the inventor to have been in possession of the claimed invention at the time of filing. Simply put, the post-filing references establish that, as of the filing date, one of skill-in-the-art could use a method to monitor a vibrating electrode without undue experimentation. Vibrational modes of a material are not "incredible" (A144) but can be elicited when using the teaching of the original specification and claims. Vibrations are not unproven "theory" (A153) as the Examiner disingenuously purports."**
>
> [from Applicant's previous Communication to the Examiner]
>
> Where is the Examiner's substantive response?

Furthermore the Office is wrong when it states, "*(t)hey were submitted in support of a different application*", because many of the declarations were submitted, from the present record. As but one example, is the citation of the Straus and Fox Declarations which discuss this invention, but were not considered.

Furthermore the Office is wrong when it states, "*(t)hey ... have been previously considered on appeal*", because the declarations were submitted, but many were not considered on appeal (Exhibit 7). Corroborating this, and further supporting the Applicant, the Court did not address them.

Furthermore, attention is now directed to the fact that the Board ordered the office to respond to them [Exhibit "6"] but, of course, the Office did not substantively, demonstrating a lack of due diligence by the Office and the Examiner. Therefore, the Court did not address them.

In summary, attention is directed to the fact that, corroborating this, the arguments in the previous Communication from the Applicant to the Office have been substantively ignored by the Office, explaining the Office need to impugn Applicant's affiants.

31. The Examiner states,

"Applicant cites declarations that allegedly demonstrate proof of operability and enablement. The submitted declarations have been fully considered but found unconvincing because of one or more of the following reasons: d) They deal with issues in the cold fusion area that have since been either discredited, abandoned, found defective or else overtaken by events (e.g., Mallove on the Japanese cold fusion research)."

None of the issues, arguments, facts, or matters of rebuttal, in the Applicant's previous Communication have been the discredited, abandoned, found defective or overtaken by any events. The Examiner has used a broad brush, with tongue firmly in cheek, to impugn the applicant for no reason and without any basis. The Applicant explicitly requests hereby that the Examiner state precisely and with accuracy exactly what issue has been allegedly discredited. The Applicant explicitly requests hereby that the Examiner state precisely and with accuracy exactly what issue has been allegedly abandoned, The Applicant explicitly requests hereby that the Examiner state precisely and with accuracy exactly what issue has been allegedly found defective.

32. The Examiner states,

"Applicant cites declarations that allegedly demonstrate proof of operability and enablement. The submitted declarations have been fully considered but found unconvincing because of one or more of the following reasons: e) They do not appear to have been declarations of disinterested parties (e.g., Swartz, Rotegard)."

There is no substantive basis for the Office to have stated this. Attention is directed to the fact that the Declarants of said Declarations have been sworn, but the Examiner has not. Therefore, the Applicant hereby explicitly requests that the Office state why Mr. Rotegard and Dr. Swartz should be disqualified or found unconvincing because they are allegedly disinterested parties. The Applicant asks the office to be accurate and precise and to state exactly which declaration is being discussed, and exactly why the stated parties are unconvincing. Given the broad-brush attack by the Office, the Examiner and Office should make these details with substantive precision and detailed accuracy because this latest attack is apparently again made to impugn the Applicant.

Attention is now directed to the fact that the *Amicus Curiae* Brief of Talbot Chubb [Exhibit "'14", 2/22/01], *Amicus Curiae* Brief of Drs. Edmund Storms [Exhibit "'10", 2/21/01], Averment 4 in the *Amicus Curiae* Brief of Mr. Rotegard [Exhibit "'12", 2/21/01], Pages 4 through 8 in *Amicus Curiae* Brief of Thomas Valone [Exhibit "'11", 2/24/01], and pages 2-5 in the Straus Declaration [Exhibit "'8", November 27, 1992] have been ignored even though the affiants have probative value and even though the averments prove operability of the present invention.

Attention is now directed to the fact that the *Amicus Curiae* Brief of Drs. Edmund Storms [Exhibit "'10", 2/21/01], *Amicus Curiae* Brief of Hal Fox [Exhibit "'18", 5/8/02], *Amicus Curiae* Brief of Eugene Mallove [Exhibit '20", 5/8/02], Declaration of Scott Chubb [Exhibit "'15", 8/13/01], Declaration of Hal Fox [Exhibit "'16", 5/16/95], Declaration of Mr. Rotegard [Exhibit "'13", 5/15/94], Declaration of Hal Fox [Exhibit "'17", 8/14/01], Declaration of Eugene Mallove [Exhibit "'19", 5/6/94], and Straus Declaration of [Exhibit "'9", 5/22/94] have been ignored even though the affiants have probative value and even though the averments prove utility of the present invention.

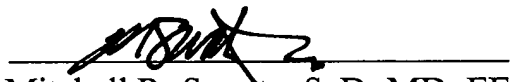
33. Applicant taught in the original specification and claims how his apparatus works and claimed the invention. Applicant has made a diligent effort to amend the claims of this application so that Claims 1-20 define a novel structure which is also submitted to render said claimed structure unobvious because it produces new and unexpected results. The Applicant has explained in detail (supra) how the cited art is different and therefore produces a different result from the present invention. Applicant has given lists of additional critical features and components which distinguish Applicant's invention to operatively function in a different manner to the cited art. Therefore, the Applicant submits that any combination of the other cited art is an improper one, absent any showing in the references themselves that they can or should be so combined. Neither of the references appears to suggests, or allude to, or teach a structure as defined by Claims 1-20. It appears that the figures and claims of the other cited art are intended to, and do, serve a different purpose than does the structure defined by the claims, and each of the cited art adds nothing of substance. None of the references shows a method to reveal information about the loading, *in situ,* and non-invasively using .a vibrating electrode, composed of a metal such as palladium which has internal filling ("loading") with hydrogen, which is monitored for its natural frequency. None of the references shows these features. Therefore, based upon the facts cited here, these Claims 1-20 are patentable over the cited references because the claims recite novel structure and thus are distinguished physically over every reference [Sec. 102], with physical distinctions which effect new and unexpected results, thereby indicating that the physical distinction is simply not obvious [Sec. 103].

As the original specification and claims teach, the present invention solves the long-standing problem of monitoring loading, *in situ,* and non-invasively. The Examiner should admit that said features are not "incredible" but can be elicited when using the teachings of the original specification and claims. Furthermore, there is documented existence of these reactions and the preferred environment in which the present invention does operate, and of the operation of the present invention. Therefore, if the Examiner disagrees with overturning his improper rejection without foundation, then the Applicant requests specificity as to the reason to facilitate Appeal. Specifically, Applicant requests that Examiner makes clear in the record which of these submitted averments by the Declarants regarding operability and utility were formally and substantially considered, and if the Examiner disputes them, exactly how he will have reached his conclusion. Furthermore, if the Examiner continues to dismiss, ignore, or relegate the relevant Exhibits and Declarations discussed above, then the Applicant hereby explicitly requests an adequate explanation of how the Declarations failed to overcome the *prima facie* case initially established by the Examiner. If necessary, for the Board of Appeal, Applicant requests it be stated explicitly, with clear pointing to where in Applicant's put lications or applications said rebuttal relates with specificity.

34 Applicant respectfully notes that the U.S. Supreme Court has ruled that any pro se litigant is entitled to less stringent standards [U.S. Rep volume 404, pages 520-521 (72)].

WHEREFORE for the above reasons, the Applicant respectfully requests a reversal of the Examiner's rejections of Claims 1-20 rejected under 35 U.S.C. 112, first paragraph, "as failing to comply with the enablement requirement", Claims 1-20 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, Claims 1, 3-7 rejected under 35 U.S.C. 102(b) as being anticipated by JP-06 018683, and Claims 8-20 rejected under 35 U S.C.103(a) as being unpatentable over JP 06-018683 in view of any one of Wang et al. (U.S. 5,495,767), Steinlecher et al. (U.S. 5,883,715) or Zang et al. (U.S. 5,838,439), or if not a substantive response as is just and reasonable.

Respectfully,



Mitchell R. Swartz, ScD, MD, EE
Post Office Box 81135
Wellesley Hills, Mass. 02481

Certificate Of Mailing [37 CFR 1.8(a)]

January 28, 2004

To Whom it Does Concern:

I hereby certify that this correspondence will be deposited with the United States Postal Service by First Class Mail, postage prepaid, in an envelope addressed to

"Office of the Clerk
Board Of Patent Appeals
c/o The Commissioner for Patents
Alexandria, VA 22313-1450" on the date below.

Thank you.

Sincerely,

January 28, 2004

M.R. Swartz
Weston, MA 02493

RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 3641

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor : Mitchell R. Swartz
Serial no. 09/750, 480

Filed: 12/28/00
For: **METHOD AND APPARATUS TO MONITOR LOADING USING VIBRATION**
This is a continuation of Serial no. 07/371,937
Filed: 06/27/89

Group Art Unit: 3641
Examiner: R. Palabrica

DECLARATION OF DR. MITCHELL SWARTZ

I, Mitchell R. Swartz, declare that I am a citizen of the United States of America and the inventor of the invention described in the above-entitled application.

1. I have a background in electrical engineering, material science, electrochemistry, and medicine, and have worked in this field for more than a decade, and have worked on experimental projects at the Massachusetts Institute of Technology, Massachusetts General Hospital and elsewhere.

2. I received the Office's communication written and dated 1/4/04, listed as mailed on 1/13/04, and mailed on 1/14/04 [cover as Exhibit "1", attached; and hereinafter simply referred to "Communication of 1/13/04"].

3. The Examiner has not responded to my previous response.

4. The Examiner has not responded to the Declarants.

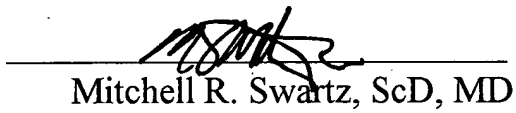
5. The Examiner claims there is "new matter" involving loading. The Examiner is wrong, and appears disingenuous, for several reasons. First, "loading" was discussed in the original specification of the parent application (S/N 07/371,937) as discussed below. It was discussed by Examiner Wasil [Exhibit "2"]. Second, "loading" was discussed in the original claims of the parent application (S/N 07/371,937) as discussed below. Third,. "loading" was discussed in the Appeal Brief to the Board in the parent application (S/N 07/371,937), as shown in Exhibit

"3". Fourth, "loading" was discussed in the Appendix to the Federal Court in the parent application (S/N 07/371,937), as shown in Exhibit "4". Fifth, this has been substantively unresponsive because this was in the original specification. Corroborating this, it was discussed in detail in the previous Communication to the Examiner on pages 7 through 10 but ignored.

6. The Examiner ignored my discussion of masaaki in the previous Communication from the Applicant to the Examiner on pages 16 through 27. The Examiner did not cite my arguments, and therefore it is impossible to tell how the Examiner weighed Applicant's arguments; there is absolutely no way to present the Examiner's reasons for rejection to the Board of Appeals.

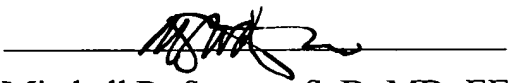
7. Ignored by the Examiner is my argument citing In re Oetiker. I requested to know the substantive precise reason, scientific basis, or authority which allows the Examiner to dismiss this Argument by the Applicant without citation, analysis, or substantive coherent response when *Journal New Energy*, 1, 3, 68-80 (1996) which absolutely I was correct on the filing date of the application [In re Hogan, 559 F.2d 595, 60S, 194 USPQ 527, 537 (CCPA 1977)].

8. The Examiner has ignored the de facto evidence and testimony of the Declarants, including the Amicus Curiae Brief of Talbot Chubb [Exhibit "'14", 2/22/01], Amicus Curiae Brief of Drs. Edmund Storms [Exhibit "'10", 2/21/01], Averment 4 in the Amicus Curiae Brief of Mr. Rotegard [Exhibit "'12", 2/21/01], Pages 4 through 8 in Amicus Curiae Brief of Thomas Valone [Exhibit "'11", 2/24/01], and pages 2-5 in the Straus Declaration [Exhibit "'8", November 27, 1992]. These have been ignored even though the affiants have probative value and even though the averments prove operability of the present invention.



Mitchell R. Swartz, ScD, MD

I declare that all statements herein of my own knowledge are true and that all statements made on information and belief are believed to be true.



Signature of Inventor:
January 28, 2004

Mitchell R. Swartz, ScD, MD, EE
Post Office Box 81135
Wellesley Hills, Mass. 02481

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,480	12/28/2000	Mitchell R. Swartz		7970

7590 01/13/2004

Mitchell R. Swartz, ScD, EE, MD
16 Pembroke Road
Weston, MA 02493

EXAMINER	
PALABRICA, RICARDO J	

ART UNIT	PAPER NUMBER
3641	

DATE MAILED: 01/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

EXHIBIT

SN
09/750,480
cont. of
SN 07/371,93

EXHIBIT "2"

SN 09/750,480 cont. of SN 07/371,937

Restriction to one of the following invention 35 U.S.C. 121:

I. Claims 1-6, 19, drawn to apparatus and method for producing a vibrational frequency of a cathode, classified in Class 376, subclass 100.

II. Claim 7, drawn to a system to monitor nuclear fusion reactions that comprises microwave radiation, classified in Class 376, subclass 245.

III. Claims 8-9, 20-22, 25-26, drawn to apparatus and method for accelerating nuclear fusion reactions, classified in Class 376, subclass 100.

The inventions are distinct, each from the other because of the following reasons.

Inventions I and II are related as subcombinations disclosed as useable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately useable. In the instant case, invention I has separate utility such as producing a vibrational frequency without using microwave radiation. Invention II has separate utility such as monitoring without a vibrational frequency of a cathode. See MPEP 806.05(d).

Inventions I and III are related as subcombinations disclosed as useable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately useable. In the instant case, invention I has separate utility such as producing a vibrational frequency without accelerating nuclear fusion reactions. Invention III has separate utility such as accelerating nuclear fusion reactions without a vibrational frequency of a cathode. See MPEP 806.05(d).

Inventions II and III are related as subcombinations disclosed as useable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately useable. In the instant case, invention II has separate utility such as monitoring without accelerating nuclear fusion reactions. Invention III has separate utility such as accelerating nuclear fusion reactions

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF:

Inventor : Mitchell R. Swartz

Serial no. 07/ 371,937
Filed: 06/27/89

For: SYSTEMS TO MONITOR AND ACCELERATE ELECTROCHEMICALLY INDUCED NUCLEAR FUSION REACTIONS

PAPER:

Group Art Unit: 2204

Examiner: D. Wasil

November 28, 1992

APPEAL BRIEF

EXHIBIT "3"

SN 09/750,480 cont. of SN 07/371,937

1. An appeal was filed in the above-entitled application on July 10, 1992, appealing the final rejection of claims 32 through 43. The Appeal Brief was duly-submitted, and has been reorganized at the request of the Examiner following receipt of a "Notification of Non-Compliance with 37 CFR 1.92(c)". The Appellant thanks the Office for the careful attention accorded the Brief, but respectfully maintains that almost all of what has been requested was actually present in the original Brief.

"32. In a process for producing a product from an isotopic fuel, consisting of the isotopes of hydrogen, using a material which is electrochemically loaded, a method [for] of monitoring the isotopic fuel within said material that comprises:

mechanically coupling said material to enable a mechanical vibration of said material,

providing means for exciting said vibration,

following the frequency of said vibrational state, and hence monitoring the mass increase and loading.

[from Paper 20, June 19, 1992]

SUMMARY OF INVENTION

9. One major focus of the present invention is to overcome the problem of in-situ monitoring of the loading (ie. volumetric filling) of a palladium cathode, which is filled with a dissimilar (with respect to the electrode) material: an isotope of hydrogen, deuterium, for use as a fuel in this fusion system.

["Loading" refers to the volume filling of the metal with the dissimilar, much lighter, material: deuterium.] Present methods to monitor the isotopic fuel within the palladium electrode (i.e. deuterium loading into palladium) are:

"made difficult in that the material must be removed from the fusion chamber, thereby not only stopping the reaction, but also cross-contaminating both the cathode and the laboratory"

[App. 07/371,937, page 5 (refers throughout this brief to pages in the original specification)].

10. Monitoring of the volumetric loading of deuterium into palladium is a problem -- one that "exists" most notably by its

APPENDIX A --- Serial no. 07/ 371,937

Claims of Record. From January 14, 1992.

These claims were numbered beginning at #36 in the Jan. 14, 1992 submission, and were thereafter renumbered by the Examiner. The numbers below, and all the rest in this document, correspond to that change by the Examiner.

==========

32. In a process for producing a product from an isotopic fuel using a material which is electrochemically loaded, a method for monitoring the isotopic fuel within said material that comprises:

mechanically coupling said material to enable a mechanical vibration of said material,

providing means for exciting said vibration,

following the frequency of said vibrational state.

33. A system as in claim 32 wherein a optical beam is used to monitor the vibrational frequency of said material.

34. A system as in claim 32 wherein said material is a member of the group composed of palladium and palladium alloys.

35. A system as in claim 32 wherein said material is filled by electrodeposition of isotopic fuel.

36. A system as in claim 32 where said means to induce vibration comprises coupling to a second mass external to said fusion cathode.

EXHIBIT "4"

SN 09/750,480 cont. of SN 07/371,93

37. A system as in claim 32 where said second mass is an electromechanical device capable of a vibration.

38. In a process for producing a product from an isotopic fuel using a material, a method for monitoring the isotopic fuel in said material that comprises a cathode mechanically coupled to a large mass at one end, and to a longitudinal mass capable of providing restoring force along its length, so as to produce a vibrational frequency or frequencies of said fusion cathode.

39. In a process for producing a product from an isotopic fuel using a material, a method for monitoring the isotopic fuel in said material that comprises:

mechanically coupling said fusion cathode so as to produce mechanical vibrations of said fusion cathode,

providing means for exciting said vibrational state,

means for following the frequency of said vibrational state,

and hence following the mass increase of said cathode.

40. In a process for producing a product from electrochemically loaded isotopic fuel using a material, a method for monitoring the isotopic fuel in said material that comprises:

mechanically coupling said material to a second mass capable

of having at least one vibrational frequency,

inducing at least one vibrational frequency,

and monitoring said vibration.

41. In a process as in claim 40 where said second mass is a electromechanical device capable of a vibrational mode.

42. In a process for producing an electrochemically induced nuclear fusion reaction, a method for monitoring the isotopic fuel in said material that comprises:

mechanically coupling one electrode so as to enable at least one vibrational frequency of said electrode,

inducing at least one vibrational frequency of said electrode, and

monitoring said vibrational frequency.

43. In a process for producing a nuclear fusion reaction from isotopic fuel using a material, a method for monitoring said reaction which comprises:

mechanically coupling said material to another mass,

inducing at least one vibrational frequency, and

monitoring said vibration of said material.

United States Court of Appeals for the Federal Circuit

00-1107
(Serial No. 07/371,937)

IN RE MITCHELL R. SWARTZ

EXHIBIT
"5"

SN
09/750,480
cont. of
SN 07/371,937

DECIDED: November 8, 2000

Before PLAGER, Circuit Judge, ARCHER, Senior Circuit Judge, and DYK, Circuit Judge.

PER CURIAM.

DECISION

Mitchell R. Swartz appeals from the decision of the Board of Patent Appeals and Interferences (Board), Appeal No. 94-2921, affirming the examiner's final rejection of claims 32-43 of application Serial No. 07/371,937 for lack of operability or utility under 35 U.S.C. § 101, lack of enablement under 35 U.S.C. § 112, ¶ 1, and indefiniteness under 35 U.S.C. § 112, ¶ 2. We affirm the Board's decision.

The Board summarily affirmed the examiner's rejection of claims 32-43 under § 112, ¶ 2, because Mr. Swartz made no substantive arguments addressing the examiner's rejection. In the numerous briefs he filed with the Board, Mr. Swartz argued only that, after the final office action rejecting all pending claims, he had filed two amendments that addressed the indefiniteness rejection. The examiner had refused to enter the amendments because they would raise the issue of new matter, and the

Commissioner had denied Mr. Swartz's petition under 37 C.F.R. § 1.181 requesting review of the examiner's decision. Although Mr. Swartz received notice that the brief he filed with the Board did not comply with the requirements of 37 C.F.R. § 1.192(c) because it did not address the indefiniteness rejection, he continued to argue only that his proposed amendments properly addressed the rejection under § 112, ¶ 2. Mr. Swartz reiterates that argument on appeal to this court.

We agree with the Board that Mr. Swartz did not present any substantive arguments addressing the rejection under § 112, ¶ 2. Mr. Swartz argued that the proposed amendments would overcome the rejection, but the amended claims were not before the Board. The Board could consider only the rejection of the non-amended claims, and Mr. Swartz presented no reasons why the Board should sustain the examiner's indefiniteness rejection of those claims.

Mr. Swartz contends that the Board should have addressed the examiner's refusal to enter his proposed amendments after the final rejection. That decision, however, was not before the Board. Nor is that decision before this court. Nevertheless, we observe that Mr. Swartz's proposed amendments were not merely amendments suggested by the examiner to address the indefiniteness problem. While the examiner made some suggestions, he made no representation that those suggestions would overcome the indefiniteness rejection. More importantly, Mr. Swartz proposed an additional claim limitation not suggested by the examiner, and it was that limitation that the examiner determined would raise the issue of new matter.

We conclude that the Board properly affirmed the examiner's rejection under § 112, ¶ 2 because Mr. Swartz presented no substantive arguments. We also conclude

that the Board did not err in failing to review the examiner's refusal to enter amendments after final rejection. Because we affirm the Board's decision sustaining the rejection under § 112, ¶ 2, we need not address the Board's decision sustaining the rejections under § 101 and § 112, ¶ 1.

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 74

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MITCHELL R. SWARTZ, *pro se*

MAILED

SEP 16 1998

PAT. & T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Appeal No. 94-2921
Application 07/371,937[1]

ON BRIEF

Before METZ, JOHN D. SMITH and WARREN, Administrative Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

REMAND TO THE EXAMINER

This is an appeal pursuant to 35 USC § 134 from the final rejection of claims 32 through 43 which involve "cold fusion" technology.

Representative claims 32 and 42 are reproduced below:

32. In a process for producing a product from an isotopic fuel using a material which is electrochemically loaded, a method for monitoring the isotopic fuel within said material that comprises:

EXHIBIT "6"

SN 09/750,480 cont. of SN 07/371,937

[1] Application for patent filed June 27, 1989.

A81

First, it is observed that the Brief filed November 30, 1992 (referred to as a "Supplemental Brief") is not now physically present in the file wrapper. Secondly, appellant's Brief filed September 11, 1992 refers to numerous publications, for example at pages 20 and 21 of that Brief, which are not specifically referred to or addressed in the examiner's Answer. Particularly, appellant's Brief refers to various publications including Freedman (Science, 4/24/92), Chandler (Boston Globe, 4/17/92); Srinivasan, Current Science, 143 (1991); Storms, Fusion Technology, 17, 680 (1990); Gozzi, J. Fusion Energy, 9, 241 (1990); Menlove, J. Fusion Energy, 9, 495 (1990); Bush, J. Electro. Chem., 304, 271 (1991); Matsumoto, Fusion Technology, 20, 323 (1991); and Swartz (1992). Additionally, we observe that supporting declarations for the Brief filed September 11, 1992 and for the Supplemental Appeal Brief filed November 30, 1992 are also in this record. Additionally, attached to the papers filed on November 30, 1992 is a declaration from Strauss.

None of the above materials are specifically referred to in the examiner's Answer. Thus it cannot be determined from the record which if any of these materials have been formally entered and considered by the examiner.

NOTE: Pursuant to Fed. Cir. R. 47.6, this order is not citable as precedent. It is a public order.

United States Court of Appeals for the Federal Circuit

EXHIBIT
"7"

SN 09/750,480
cont. of
SN 07/371,937

00-1107
(Serial No. 07/371,937)

IN RE MITCHELL R. SWARTZ

ON MOTION

Before PLAGER, Circuit Judge.

ORDER

Thomas Valone and Hal Fox, appearing pro se, each move for leave to file a brief amicus curiae and move for leave to file out of time. Valone states that Mitchell R. Swartz consents and that the Commissioner of Patents and Trademarks opposes.*

Upon consideration thereof,

IT IS ORDERED THAT:

Valone and Fox's motions are denied.

---

* Swartz complains that the attorneys entering appearances on behalf of the Commissioner have not properly filled out the forms. We direct Swartz to Fed. Cir. R.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF:	PAPER:
Inventor : Mitchell R. Swartz	Group Art Unit: 2204
Serial no. 07/ 371,937 Filed: 06/27/89	Examiner: D. Wasil
For: SYSTEMS TO MONITOR AND ACCELERATE ELECTROCHEMICALLY INDUCED NUCLEAR FUSION REACTIONS	November 27, 1992

DECLARATION of ISIDOR STRAUS

I, Isidor Straus, am a citizen of the United States of America.

I have earned the degree of Bachelor of Science in Electrical Engineering from the Massachusetts Institute of Technology in 1968, am an inventor [U.S. Patents 4,370,570, 4,719,699, and 4,760,355], and a Registered Professional Engineer in the Commonwealth of Massachusetts [Reg. #31468].

I am familiar with the interactions of magnetic and electric fields, and electric charges and currents with materials. My fields of experience include circuit design, three-dimensional display technology, and electromagnetic compatibility including materials and testing. In the area of electromagnetic compatibility, I have been active since 1976, and I am a nationally recognized expert.

EXHIBIT "8"

SN 09/750,480 cont. of SN 07/371,937

I have reviewed the invention described by Johnson (Patent 4,683,119) and the invention described by Mitchell R. Swartz in present application, S/N 07/371,937.

Based upon my review, it is my judgement that Johnson describes a coulometer used in conjunction with a lithium battery. This is confirmed in Johnson.

Johnson uses the resonant frequency of a pendulum to detect the mass of silver deposited on the coulometer's electrode. There is an near exact correspondence between the charge that flows through the circuit, and thus the coulometer, and the deposited silver. This, too, is confirmed in Johnson.

In fact, the very usefulness of the Johnson invention in a battery system lies in this one-to-one relation. In measuring the state of charge of a battery, Johnson assumes that the only parameter of interest is the total amount of charge that has flowed. Hence, Johnson infers the physical state of the battery indirectly, that is, physically outside of the battery.

In contrast, the Swartz invention is a fusion reactor which contains within it a method that directly measures the loading of the isotopic fuel, deuterium, via a novel vibrating cathode.

The Swartz invention proposes measuring mass change in his pendulum to detect the actual state of the physical intracathodic system, namely the level of deuteron loading into the palladium metal cathode from the heavy water electrochemical cell.

It appears from the media and literature that the level of deuteron loading within the palladium electrodes may be a critical factor in the operation of the electrochemical fusion cell. Simply measuring the total amount of charge driven through the cell will not provide adequate information on the loading level achieved. This is so, because there is no guarantee of a one-to-one correspondence between the charge driven through the cell and the number of deuterons actually entering, and present, inside the palladium electrode.

The use of an external coulometer, whether of the Johnson-type, or other type (eg. a digital recording and integrating ammeter), would not and could not provide the required information on the precise internal state of the fusion cathode being loaded from the electrochemical cell. In Swartz' system, the measurement of the intracathodic system state is direct, and indeed, must be for the invention to have value.

This can be shown as follows. First, consider the fate of a deuteron crossing the aqueous cell and arriving at the palladium cathode. The efficiency of deuteron absorption is usually not 100%. Instead, some monoatomic deuterons can recombine at the electrode surface, leading to the well-known problem of deuterium gas evolution. A second problem is that deuterons, once absorbed, can later leave and escape under certain conditions. For example, if the electricity is turned off, deuterons will rapidly outgas.

Thus, the net loading reflects the detailed history of the palladium electrode. The time integration of electrical cell current provided by any in-series coulometer misses, and fails to distinguish, such events entirely, even though these are the very events which have a marked effect on the loading level, and apparent utility of this technology.

In my opinion, one novelty introduced by the Swartz invention is that its vibrating cathode and associated detectors provide a method of measurement that directly determine the intracathodic loading, a key important parameter. The Johnson coulometer does not anticipate this for two reasons. First, although Johnson's pendulum does have a response to mass change via a frequency of resonance (as do all pendula), the Johnson invention only

measures the total charge transferred, a different parameter.

Second, the Johnson coulometer can only infer the state of any associated system, rather than monitoring any parameter directly.

In summary, if a Johnson coulometer was placed in series with an electrochemical fusion cell, it would not be of any use. It would provide the time integral of the electric current provided to the fusion cell, but certainly would not provide accurate information on the deuteron loading into the palladium, which would be measured by the Swartz invention.

I declare that all statements herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: November 27, 1992

I. Straus

Isidor Straus
Wayland, Mass. 02193

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF:	PAPER:
Inventor : Mitchell R. Swartz	Group Art Unit: 2204
S rial no. 07/ 760,970 Filed: 09/17/91	Examiner: D. Wasil
For: SYSTEMS TO CONTROL NUCLEAR FUSION OF ISOTOPIC FUEL WITHIN A MATERIAL	April 22, 1994

EXHIBIT
"9"

SN
09/750,480
cont. of
SN 07/371,93

U.S. Patent and Trademark Office
Washington, D.C. 20231

DECLARATION OF ISIDOR STRAUS

1. I, Isidor Straus, am a citizen of the United States of America. I have earned the degree of Bachelor of Science in Electrical Engineering from the Massachusetts Institute of Technology in 1968, am an inventor [U.S. Patents 4,370,570, 4,719,699, and 4,760,355], and a Registered Professional Engineer in the Commonwealth of Massachusetts [Reg. #31468].

I am familiar with the interactions of magnetic and electric fields, and electric charges and currents with materials. My fields of experience include circuit design, three-dimensional display technology, and electromagnetic compatibility including materials and testing. In the area of electromagnetic compatibility, I have been active since 1976, and I am a nationally recognized expert.

2. I have reviewed the invention described by Rabinowitz (Patent WO 90/14670 tk) and the invention described by Dr. Mitchell R. Swartz in present application, S/N 07/760,970.

3. Based upon my review, it is my judgement that Rabinowitz describes a means to generate electricity from a current scavenging system. This is confirmed in Rabinowitz.

4. Rabinowitz uses the weak electrical current from charged particles emitted from a material during recoil. After the charged particle exits the material, it will be spatially circulated by means of the magnetic field. Rabinowitz uses the Lorentz forces to move the charged particles around in a circle. That Lorentz force is centripetal, that is, perpendicular to the path of the charged particles at all times. I believe that only those species of ions which are "tuned" (as a function of mass and charge and magnetic field intensity) will continue to circulate, the rest impacting on the sides of the Rabinowitz device. For example, the Rabinowitz device might be set to collect protons, in which case more massive ions would impact the sides of the circulating ring. The favored species of ions circulates, inducing current in the pickup coils.

5. The usefulness of the Rabinowitz invention lies in its utilizing the already moving charged particles with a magnetic field which is essentially homogeneous in intensity at the location where the charged particles are ejected from the material by way of recoil (at number 70 in Figure 5b of Rabinowitz).

6. In contrast, the Swartz invention (as shown in Figure 18 of the original specification of the above-entitled invention) is a method of collecting a species in a

small volume within the Swartz device using an inhomogeneous magnetic field. In contrast to Rabinowitz, Swartz describes (in Figure 18 and the text which goes with it) a chemical collection system based upon differences in susceptibility of the materials. In contrast to Rabinowitz, the Swartz invention can produce a sustained increase in the concentration of a desired isotope in the small volume located within the Swartz apparatus (one side of number 1 in Figure 18 of the original specification of the above-entitled invention) when there are differences in magnetic permeability of the isotopes.

7. In contrast to Rabinowitz's linear use of the Lorentz force, this portion of the present invention is a non-linear device in the sense that the containment field distribution is spatially non-uniform.

8. In summary, the Swartz invention is therefore a chemical collection device. In contrast Rabinowitz describes a current scavenging system. In contrast to Rabinowitz's linear use of the Lorentz force, this portion of the present invention is a non-linear device. These inventions differ in their results, the means to achieve those results, and their intent.

I declare that all statements herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: April 22, 1994

I. Straus

Isidor Straus
Wayland, Mass.

Brief for an Amicus Curiae
in the matter of
Petition for a Writ of Certiorari
by Dr. Mitchell Swartz
in the
Supreme Court of the United States
January 18, 2001

by
Dr. Edmund Storms, Ph.D

EXHIBIT
"10"

SN
09/750,480
cont. of
SN 07/371,937

PERSONAL BACKGROUND

I am a person of scientific training, having a M.S. and Ph.D. from Washington University (St. Louis) and who worked for 34 years at the Los Alamos National Laboratory before retiring in 1991. I have studied the field of anomalous low energy nuclear reactions, which includes the field conventionally named cold fusion. I have written three published scientific reviews as well as have done experimental work on the subject. This work has been published in scientific journals that were subjected to peer review. I have no personal or financial relationship to the petitioner, Dr. Mitchell Swartz. I have reviewed his work and an writing this only as a service to the truth.

ISSUE TO BE ADDRESSED

The petitioner has submitted an application for a patent describing a method to determine the hydrogen concentration in palladium and in other metals. This patent was rejected because it was found to be useless, especially because it was applied to a process (cold fusion) that is deemed by the patent office to have no basis in reality.

Two main scientific questions exist in this situation.

1. Does the patent represent a useful method to determine the hydrogen content of metals, independent of the field of cold fusion?

2. Is the patent Office correct in their rejection of cold fusion as a real phenomenon of nature?

RESPONSE TO THE ISSUE

Question 1: Most metals react with hydrogen and their properties are changed by this process. For example, when palladium reacts with hydrogen, the transition to a superconducting state moves to a higher temperature the more hydrogen is reacted. Thirty years ago, this behavior was considered very important because PdH had the highest transition temperature known at the time. Since then, the compounds formed between palladium and hydrogen have been extensively studied. All of these efforts rely on knowing the amount of hydrogen combined with the metal. Various methods have been used to determine the hydrogen content, each with its own limitations and potential errors. The method proposed by Dr. Swartz adds one more method that might prove useful under the correct circumstances. The potential usefulness of the method in these circumstances is impossible to predict, but the potential is not so remote to warrant rejecting a patent on this basis.

Question 2: The field called "cold fusion" or CANR (Chemically Assisted Nuclear Reactions) or LENR (Low Energy Nuclear Reactions) has gone from being a phenomenon of uncertain reality to one having the support of hundreds of experimental replications and thousands of published papers describing the work. This work can be easily accessed using the Internet or any scientific data base. Eight international conferences have been held and papers are now regularly presented at meetings of the American Physical Society, the American Chemical Society and the American Nuclear Society. In addition, local meetings on the subject are regularly held in Russia and in Japan. It is no longer correct or even rational to argue that this phenomenon is a delusion, a fraud, or a mistake, as the patent office and other government agencies have asserted. It is true, the phenomenon is difficult to initiate, it is not well understood, and many scientists remain skeptical because they are unaware of the vast amount of new information. Nevertheless, the phenomenon is as real as can be said for many new discoveries, discoveries that routinely receive patent protection.

CONCLUSION

It is my personal belief, based on a careful study of the issues, that the patent in question is worthy of being granted.

00-1107

United States Court of Appeals for the Federal Circuit

IN RE SWARTZ

Appeal from the Board of Patent Appeals and Interferences
No. 94-2921

AMICUS BRIEF

For
Mitchell R. Swartz, pro se

Thomas Valone
Integrity Research Institute
1422 K Street NW, Suite 204
Washington, DC 20005

(1) TABLE OF CONTENTS

PAGE

(2) TABLE OF AUTHORITIES

PAGE

3) STATEMENT OF IDENTITY

1. As a friend of the court, the following information, on issues that have not been raised by the appellant nor the appellee, is presented. It behooves the court to review these remarks which have interest to the public at large and are for the public good.

2. Thomas Valone, the writer of this Amicus Brief, is the President of Integrity Research Institute, a non-profit corporation incorporated in the District of Columbia, reporting to over three hundred inventors and over three thousand public supporters on energy issues. I hold a Bachelor's Degree in physics and Master's Degree in physics, with a second Bachelor's Degree in electrical engineering, all from the State University of New York at Buffalo. I am also a licensed professional engineer, with License #062475 from the New York State Education Department, an author, a retired college physics and engineering teacher at Erie Community College, and a former patent examiner with three years of experience at the U. S. Patent and Trademark Office in Art Unit 2858 (measuring, testing, instrumentation, and physics). All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curie represented by me are none. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are none.

3. In reviewing the Board Of Patent Appeals and Interferences decision (App. Bd.) in the Swartz case (Fed. Cir. 00-1107), the following is made clear:

4) ARGUMENT OF AMICUS CURIAE

4. Regarding the rejection under 35 U.S.C. 101, it is noted that the rejection under 35 U.S.C. 102 of claims 32 and 35-41 over Johnson (App. Bd. p. 8) could not have been made, and sustained through a final rejection, had the invention truly been inoperative and lacking utility. In other words, it is well-known to those skilled in patent examining that no prior patented art can be found for something that clearly does not operate and has no utility. Specifically, the fact that claim 32 was found by the examiner to be anticipated by Johnson (Appeal Brief 07/371,937 - 11/28/92, p. 26) shows that the appellant's invention must have made at least one credible assertion of specific utility to satisfy 35 U.S.C. 101 and 35 U.S.C. 112 (MPEP 2107.01).

5. Furthermore, the logic that the App. Bd. used to withdraw the rejections under 35 U.S.C. 102 and 35 U.S.C. 103 appears to be in error (p. 27) as illustrated by the citation of *In re Payne* (App. Bd. p. 27) regarding the "making" of the invention. The appellant's invention does not involve the manufacture of an apparatus but a METHOD for monitoring. The App. Bd. apparently lost sight of the metes and bounds of the method claim 32 when they made such a comparison.

6. Regarding the actual rejections under 35 U.S.C. 101 and 35 U.S.C. 112, first paragraph, and the App. Bd. Decision (p. 12), it is valuable to note that "where an applicant has set forth a specific utility, courts have been reluctant to uphold a rejection under 35 U.S.C. 101 solely on the basis that the applicant's opinion as to the nature of the specific utility was inaccurate"

(MPEP 2107 I.) and "practical considerations require the Office to rely on the inventor's understanding of his or her invention in determining whether and in what regard an invention is believed to be 'useful'" (MPEP 2107 I.). In both instances, the App. Bd. has apparently disregarded the specific utility and the inventor's understanding of his invention.

7. The Board of Appeals further performs a logical *non sequitor* when it starts the discussion of the rejections under 35 U.S.C. 101 and 35 U.S.C. 112, first paragraph with the word "incredible" on the first page (App. Bd. p. 12) of a fourteen-page discourse on utility. Rather it is specifically noted that "Office personnel should be careful not to label certain types of inventions as 'incredible' or 'speculative' as such labels do not provide the correct focus for the evaluation of an assertion of utility. 'Incredible utility' is a conclusion, not a starting point for analysis under 35 U.S.C. 101 (MPEP 2107.01, I.B) (emphasis in the original text).

8. Also on the first page of the discussion of the rejections under 35 U.S.C. 101 and 35 U.S.C. 112, first paragraph, (App. Bd. p. 12) is the reference to Newman v. Quigg which relates to a perpetual motion machine. Instead, the App. Bd. discussion of the claim 32 and claim 42 enablement of the instant application with regard to this reference is not relevant for an evaluation of a method for monitoring that has nothing to do with perpetual motion.

9. Even if, in the extreme presumption that the instant application had no statement of utility for the claimed invention, this would still "not *per se* negate utility" (MPEP 2107.01, II.B). Such a presumption does indeed

appear to be asserted by the App. Bd. on the second page of the utility discussion (p. 13, line 17), without any regard to the relevant MPEP guidelines cited here.

10. Clearly, one of the most important points regarding Office rejections under 35 U.S.C. 101 and 35 U.S.C. 112, first paragraph, is that the claimed invention should be the focus of the utility requirement. "Each claim therefore, must be evaluated on its own merits for compliance with all statutory requirements" (MPEP 2107.01, I.). In this case on appeal (00-1107), claim 32 claims a method for monitoring, with three method steps (mechanically coupling, exciting said vibration, and following the frequency) that can be easily understood to persons with normal engineering skill in any art.

11. By a process of elimination, the question of utility (App. Bd. p. 12-26) regarding claim 32 can logically only refer to the preamble "In a process...is electrochemically loaded," which however, does not carry patentable weight in this claim. To emphasize this fact more clearly, note:

(1) the preamble of claim 32 recites the purpose of the process,

(2) the body of the claim does not refer back to the preamble,

(3) the process steps are able to stand alone (MPEP 2111.02).

Therefore, claim 32 can be asserted to have justifiable utility when the preamble is put in proper perspective.

12. Further regarding the question of utility, claim 32 must be given the broadest reasonable interpretation. "Reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim,

is a quite different thing from 'reading the limitations of the specification into a claim,' to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim"- *In re Prater*. Therefore, claim 32 can have justifiable utility as a method for monitoring when a broader interpretation is given to it.

13. Regarding the rejection under 35 USC 112 second paragraph, the App. Bd. also apparently erred when they sustained it to both claim 32 and claim 42. Upon reviewing the disclosure of the case (Serial No. 07/371,937) and the Appeal Brief (11/28/92, p. 26), it is clear that the rejection only was applied for lack of antecedent basis of "said material" in claim 42. The use of "said material" in claim 32 has sufficient antecedent basis in the preamble of claim 32. Therefore, the rejection under 35 USC 112 second paragraph does not and should not apply to claim 32 at all. However, regarding claim 42, it appears that this rejection was correctly sustained. On this same topic however, it needs to be noted that the suggestion of the examiner to add language to these two claims in order to overcome the rejection under 35 USC 112 second paragraph and then following with a refusal to enter the exact language suggested because of a "new matter" or "new issue" accusation amounts to not dealing honestly with the appellant and not the type of behavior that is normally endorsed by the Patent Office. It also does not "help our customers to get patents" as in the present Office motto. From my experience at the Patent Office such deception of an applicant on the part of the examiner was never tolerated by a supervisor.

14. Regarding the extensive argument about cold fusion, (App. Bd. p. 12-26), it is important to note that claim 32 does not have anything to do

with cold fusion, nuclear fusion, nor "excess heat." Therefore, such arguments on the part of the Appeals Board is irrelevant and perhaps an effort at obfuscation based on the prevailing Patent Office management attitude toward any reference to "cold fusion."

15. To illustrate, the METHOD OF MONITORING a heartbeat was used centuries before it was even known what a heartbeat consisted of. Therefore, it is not logically necessary for either party in this case to argue the merits of cold fusion as it was known in 1989. The appellant is simply claiming a METHOD FOR MONITORING the loading of an electrode, which appears to be very similar to but distinct from Johnson.

16. To clarify further, a METHOD FOR MONITORING a disease does not become useless if there is no disease that can be found. The Appeals Board is arguing as if the inventor must prove that the disease exists, which makes no logical sense in the case of claim 32.

17. Claim 32, which does not suffer from any justified rejection at this time, should be allowed to mature into a patent.

Respectfully submitted,

Thomas Valone

Thomas Valone, M.A., P.E.

No. 00-1191

EXHIBIT
"12"

SN
09/750,480
cont. of
SN 07/371,93

IN THE

Supreme Court of the United States

Mitchell R. Swartz, *Petitioner*

v.

Q. Todd Dickinson, Director of the USPTO,
Commissioner of Patents and Trademarks,
Respondent

On Petition For A Writ Of Certiorari
To United States Court Of Appeals
For The Federal Circuit
00-1107 (Serial No. 07/371,937)
00-1108 (Serial No. 07/760,970)

AMICUS BRIEF

OF DANA ROTEGARD

February 21, 2001

(1) CERTIFICATE OF INTEREST [Pursuant Rule 47.4]

Friend of the Court certifies the following:

1. The full name of every party or amicus represented by me is:

Dana Rotegard.

2. The name of the real party in interest represented by me is:

Dana Rotegard.

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are:

NONE

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

NONE

(2) Table Of Contents

(3) STATEMENT OF AMICUS CURIAE
(Fed Circuit Rule 47.5)

As a friend of the court, the following background information is presented.

Dana Rotegard is a social scientist who has published in the fields of economic geography, energy economics, and science policy for government bodies and in peer reviewed scientific publications including *Space Power*, *Futurics*, *Jane's Space Markets* (Geneva), and journals of *The American Astronautical Society*, the *British Interplanetary Society*.

He has served several organizations ranging from Commercial Space Technology Ltd. (UK) to the Minnesota Public Interest Research Group in Minneapolis, Minnesota.

(4) ARGUMENT - ISSUES ADDRESSED

3. Whether the Office complied with the standards of review regarding definiteness under 35 U.S.C. §112 ¶2.

The question of what Dr. Swartz's invention does is simple. It measures the saturation of hydrogen in the metal palladium. It is analogous to measuring the level of water in a sponge. The contention that this applications teachings are too esoteric or obscure to be understood by scientists working in the field of energy research, or for that matter a literate layman, is not a credible objection to Dr. Swartz's patent rights.

The concepts and discussions of Dr. Swartz'S applications have definiteness.

5. Whether the Office complied with the standards of review regarding utility under 35 U.S.C. §101.

The "utility" of this new method to measure hydrogen in metals is straightforward. Hundreds of scientists in the USA, Japan, Italy, India, the PRC, France, Russia and elsewhere are investigating nuclear reactions in metals saturated in hydrogen or deuterium. ***-1

The level of saturation of hydrogen or its isotope deuterium in metal is the first and most important variable to measure in this field and in other areas of materials science and metallurgy. In this field, experimental evidence has shown that a ratio in the range of .85 to 1.0 D/Pd is a prerequisite to achieving fusion in metals at room temperatures [4th International Conference On Cold Fusion (Maui December. 5-10, 1993)].

***-1 Although much of this research has the official backing of government, or academic sponsorship and has generated

Therefore, a proper method to measure the ratio of deuterium in Palladium D/Pd is central and critical to the success, or failure, of these types of experiments.

6. Whether the Office has violated the United States Constitution.

The U.S. Patent office has acted in defiance of global scientific opinion and the published literature. Unlike here, these inventions can be patented in other countries. This has been confirmed to me by conversations with foreign scientists such as Dr. Tadahiko Mizuno of the University of Hokkaido in Japan.

In the United States, opposition to this research is fierce, well organized, and essentially political. The prestige of this group has kept this body of knowledge out of our regular press.

The only American body with the independence and authority to insist on due process in this field of science policy is the U.S. Supreme Court.

Respectfully submitted,

Dana Rotegard

---

(5) STATEMENT OF CONSENT

The writer of this Brief certifies that he has gained consent of the Petitioner to participate as an *amicus curiae*. Consent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF: Inventor : Mitchell R. Swartz Serial No.: 07/ 339,976 Filed: 04/18/1989 SYSTEMS TO INCREASE THE EFFICIENCY CONTROL, SAFETY AND ENERGY UTILIZATION OF ELECTROCHEMICALLY INDUCED FUSION REACTIONS	PAPER: Group Art Unit: 2204 Examiner Anthony Chi

EXHIBIT
"13"

SN
09/750,480
cont. of
SN 07/371,937

Commissioner of Patents and Trademarks
Washington, D.C. 20231

DECLARATION OF DANA R. ROTEGARD

1. I, Dana Richard Rotegard, declare that I am a citizen of the United States of America. I have earned the degree of B.A. in Political Science and Music [Macalester, St. Paul], and continued graduate study in the fields of microeconomics, policy of the environment, and finance at the Humphrey Institute of the University of Minnesota. I have worked as a resource economist and have acted as the Chief Research Economist for the City of Minneapolis during ten year service there.

2. I am a writer in the fields of economic development, space science and cold fusion. My contributions include publications in, or editorial function for, **Space Power, Futurics, Space Markets** of Jane's Information Group, **Case for Mars III, Cold Fusion Times**, and **Fusion Facts**. I am a member and founder of the **Minnesota Cold Fusion Alliance**.

3. The Patent Office is reported to have the opinion that cold fusion does not exist, and that inventions in this area have no utility.

4. I submit that this statement and opinion of the Office is incorrect. Most of the negative authority cited by the Examiner has not approached cold fusion with a scientifically open mind. Furthermore, a number of the leading academic laboratories in the USA have replicated the original Fleischmann and Pons effect

including the Texas A & M chemistry department, The University of Minnesota Materials Science and Chemical Engineering Department, Stanford Research International and others as documented by the bibliography supplied by the Fusion Information Center Inc. of Salt Lake City, Utah.

5. If only a few labs had reported success, then skepticism of cold fusion would be viable. Several research teams reported positive finding on the original Fleischmann Pons effect at the Fourth International Conference on Cold Fusion in December 1993. I submit that Occams razor would dictate that the phenomena is real and has been "reproduced" to the point of overkill.

6. Major research institutions, industrial corporations and established scientific journals of international repute have endorsed the reality of cold fusion and are acting to explore and benefit from this reality. The Electric Power Research Institute of Palo Alto, California, and the Japanese MITI have endorsed and are actively sponsoring cold fusion research. Toyota through its research arm IMRA is sponsoring cold fusion research in France and Japan. In short, major institutions that should have an interest in new energy science have decided that cold fusion is real and are acting on that judgement. In addition, major refereed journals such as Fusion Technology and Physics Letters A have published numerous positive cold fusion lab reports. These trends would lead a prudent person to conclude that there is substance to the research cited above. Therefore, developments and inventions in this area have great utility.

I declare that all statements herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dana Richard Rotegard

Date: 5-15-94

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Minneapolis, Minnesota 55403

EXHIBIT
"14"

SN
09/750,480
cont. of
SN 07/371,93

No. 00-1191

IN THE

Supreme Court of the United States

Mitchell R. Swartz, *Petitioner*

v.

Q. Todd Dickinson, Director of the USPTO,
Commissioner of Patents and Trademarks,
Respondent

On Petition For A Writ Of Certiorari
To United States Court Of Appeals
For The Federal Circuit
00-1107 (Serial No. 07/371,937)
00-1108 (Serial No. 07/760,970)

AMICUS BRIEF
OF TALBOT A. CHUBB

February 21, 2001

(1) CERTIFICATE OF INTEREST [Pursuant Rule 47.4]

Friend of the Petitioner and the Court certifies the following:

1. The full name of every party or amicus represented by me is:

Talbot A. Chubb.

2. The name of the real party in interest represented by me is:

Talbot A. Chubb.

3. All parent corporations and any publicly hold companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are:

NONE

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

NONE

(2) Table Of Contents

(3) Table of Authorities

Published Peer-Reviewed Authorities	
"Excess Heat & Why Cold Fusion Research Has Prevailed", Charles Beaudette, Oak Press, LLC, South Bristol , Maine, USA, (2000).	1
M. H. Miles and B. F. Bush, "Heat and Helium Meaasurements in Deuterated Palladium", *Trans. Fusion Technol.* , 26, p. 156 (1994).	2
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Y. Arata and Y.-C. Zhang, "Achievement of Solid-State Plasma Fusion ('Cold-Fusion'"), *Proc. Japan Acad.* , 71B, p. 304 (1995).	2
Y. Arata and Y.-C. Zhang, "A New Energy caused by 'Spillover-Deuterium'", *Proc. Japan Acad.* 70B, p. 106 (1994).	2
Y. Arata and Y.-C. Zhang, "Solid State Plasma Fusion ('Cold Fusion')", *J. High Temperature Soc. Jpn.* 23 (Special Vol.), p. 1 (1998).	2
Y. Arata and Y.-C. Zhang, "Helium (4He, 3He) within Deuterated Pd-Black", *Proc. Japan Acad.* 73B, p. 1 (1997).	2
M. C. H. McKubre, F. Tanzella, and P. Tripodi, Presentation made at the *8th International Conference on Cold Fusion*, May 2000. Proc. ICCF8 (in press). Bryan Clarke, et al., Fusion Technology (in press).	2
M. C. H. McKubre, S. Crouch-Baker, A. M. Riley, S. I. Smedley, and F. L. Tanzella, "Excess Power Observations in Electrochemical Studies of the D/Pd System, the Influence of Loading" in Frontiers of Cold Fusion, *Proc. of Third International Conference on Cold Fusion*, Ed. by H. Ikegami (Universal Academy Press, Inc., Tokyo, 1993), p. 5.	3

(4) STATEMENT OF AMICUS CURIAE (Fed Circuit Rule 47.5)

As a friend of the Petitioner and the court, the following background information is presented.

Dr. Talbot Chubb holds a Doctorate of Science degree (Ph.D., Physics, Univ. of North Carolina in Chapel Hill) and AB (Physics, High Honors, Princeton Univ.). He is a Fellow of American Physical Society and American Geophysical Union.

He has served for 31 years at the Naval Research Laboratory, and thereafter University Space Research Associates, Bendix Field Engineering Corporation, and Oakton International Corp. Dr. Chubb's specialties are x-ray and uv sensors, solar, uv and x-ray astronomy from space, astrophysics, and energy studies. He is the recipient of the NAVY Dist. Civil. Service Award, RESA Pure Science Award, E. O. Hulburt Science Award, and Elisha Mitchell Society Award.

(5) ARGUMENT - ISSUES ADDRESSED

5. Whether the Office complied with the standards of review regarding operability under 35 U.S.C. §112.

This discussion concerns the utility of devices and methods for measuring "loading", such as the Petitioner's invention. Loading is a term used by practitioners of the art. Deuterium loading describes an increasing of the deuterium atom/metal atom ratio in a metal cathode. This increasing can occur during electrolysis of heavy water (McKubre et al. 1993).

With sufficient loading and other factors, there is strong experimental evidence that a radiationless form of nuclear fusion sometimes occurs in deuterium-loaded palladium metal. Substantial laboratory progress in establishing the reality of these radiationless d-d nuclear reactions in the deuterium-palladium system have been well summarized in "Excess Heat & Why Cold Fusion Research Has Prevailed", Charles Beaudette, Oak Press, LLC, South Bristol , Maine,

USA, 2000). The data includes mass spectrometer observations of helium-4 in the electrolysis off-gas in experiments by Miles, B. Bush, McKubre, and Tanzella [M. H. Miles and B. F. Bush, "Heat and Helium Meaasurements in Deuterated Palladium",Trans. Fusion Technol. , 26, p. 156 (1994), M. C. H. Mckubre, F. Tanzella, and P. Tripodi, Presentation made at the Western Regional Meeting of the Amercian Chemical Society, October 1999. Proc. ICCF8 (in press). Submitted to Fusion Technology].

Japanese researchers have developed a DS-cathode, which has produced watts of excess heat 10 times in a row [Y. Arata and Y.-C. Zhang, "Achievement of Solid-State Plasma Fusion ('Cold-Fusion'"), Proc. Japan Acad. , 71B, p. 304 (1995), Y. Arata and Y.-C. Zhang, "A New Energy caused by 'Spillover-Deuterium'", Proc. Japan Acad. 70B, p. 106 (1994); Y. Arata and Y.-C. Zhang, "Solid State Plasma Fusion ('Cold Fusion')", J. High Temperature Soc. Jpr. 23 (Special Vol.), p. 1 (1998)].

There has followed successful transfer of the Arata and Zhang DS-cathode technology developed at Osaka University to the McKubre laboratory at SRI. (1999), and confirmation of the observation of by-product helium-3 by Arata and Zhang [Y. Arata and Y.-C. Zhang, "Helium (4He, 3He) within Deuterated Pd-Black",Proc. Japan Acad. 73B, p. 1 (1997)] by Clarke and McKubre et al. during study of materials from previously run DS-cathodes. Helium-3 was repeatedly observed at a helium-3/helium-4 ratio greater than 10000 times ambient value, and tritium in gas from a post-run DS-cathode was measured by the build-up of helium-3 in stored chemically-purified hydrogen samples by Clarke, Oliver, and McKubre et al. [M. C. H. Mckubre, F. Tanzella, and P. Tripodi, Presentation made at the 8th International Conference on Cold Fusion, May 2000. Proc. ICCF8 (in press). Bryan Clarke, et al., Fusion Technology (in press)].

The fusion process is described by the reaction:

2 deuterons => helium-4

with release of 23.8 MeV of reaction energy.

The released nuclear energy appears as heat without neutron, gamma ray or energetic particle emission. The heat production and the synthesis of helium-4 product have been quantitatively measured and shown to agree with the known heat of formation. There is also strong evidence for a side reaction that produces helium-3 and hydrogen-3 at rates that don't contribute significantly to heat production, but which clearly show that a nuclear process has occurred.

5. Whether the Office complied with the standards of review regarding utility under 35 U.S.C. §101.

McKubre et al. found that excess heat release in heavy water electrolysis using Pd cathodes depends on the achieved D/Pd ratio, as well as on other factors [M. C. H. McKubre, S. Crouch-Baker, A. M. Riley, S. I. Smedley, and F. L. Tanzella, "Excess Power Observations in Electrochemical Studies of the D/Pd System, the Influence of Loading" in Frontiers of Cold Fusion, Proc. of Third International Conference on Cold Fusion, Ed. by H. Ikegami (Universal Academy Press, Inc., Tokyo, 1993), p. 5.]. These researchers have used an awkward electrical resistivity method to measure deuterium loading. Their method requires that additional wire contacts be made onto the cathode being tested. These additional contacts can compromise the ability of the metal cathode to achieve high loading.

. The measurement of deuterium/metal ratio is of utility in this research and development effort. Methods that avoid use of extra contacts could be of special utility.

Respectfully submitted,

Talbot A. Chubb

Talbot A. Chubb, Ph.D.

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(6) STATEMENT OF CONSENT

The writer of this Brief certifies that he has gained consent of the Petitioner to participate as an *amicus curiae*. Consent from the Office of the Solictor General (202-514-2217) has been requested/~~obtained~~. TAC

Talbot A. Chubb

BOARD OF PATENT APPEALS AND INTERFERENCES FOR THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor : Mitchell R. Swartz
Serial No.: 08-406,457
Filed: 3/20/1995

For: APPARATUS TO DETERMINE THE ACTIVITY OF A SAMPLE LOADED WITH ISOTOPIC FUEL

Group Art Unit: 2204

Examiner: Daniel Wasil

EXHIBIT
"15"

SN
09/750,480
cont. of
SN 07/371,937

AFFIDAVIT OF SCOTT R. CHUBB, Ph.D.

I, Scott R. Chubb, Ph.D., under oath and based on personal knowledge, depose and say as follows:

1. I reside in Burke, VA. I earned a Ph.D. and M.A. (Physics, State University of New York at Stony Brook, 1982, 1978).and a B.A. (Princeton, 1975). I have served as a Research Physicist at the Naval Research Laboratory since 1989 and National Research Council Fellow (1985-1988), and am now affiliated with Research Systems, Inc. and NRL. I am a solid state physicist and an inventor, and have published more than fifty papers in refereed journals concerning solid state physics, nonlinear dynamics, statistical physics, and nuclear physics. My expertise concerns the behavior of hydrogen in, and the transport of hydrogen through, metals.

2. I have read all of the relevant documents including the Board's Decision of July 29, 2001, and the original above-entitled application.

3. In this case, the patent office (PTO) has ignored the facts involving the present invention, such as the relevant scientific information associated with measuring activity of sample loaded with hydrogen and deuterium. The patent application provides a well-defined procedure, understandable by anyone skilled

in the art, that can be used to implement the invention. Enablement of the invention is documented through peer-reviewed literature that has been authored by inventor [Swartz. M., 1997, *Fusion Technology*, 31, 63-74. It is evident that the patent office has become recalcitrant, with its opinion in contradiction to existing evidence as promulgated through peer-reviewed literature.

4. Dr. Swartz has invented an important, new device, whose purpose has value for measuring activity of a sample. As an expert, skilled in the theory and practice of loading and transport of hydrogen in transition (and other) metals, I assert that the invention has definite utility, simply because the idea of using activity, as defined by the ratio of P[out]/P[in], set forth in the invention has utility that transcends the immediate consequences associated with the attainment of the "cold fusion" effect which is seen with adequate hydrogen (and deuterium) loading and transport in palladium and other metals [Scott R. and Talbot A. Chubb, *Fusion Technology*, 24, 403, (1993), Talbot A. and Scott R. Chubb, *Fusion Technology*, 20, 93, (1991)]. The design and use of such a device measuring activity has immediate, important applications in the characterization of these kinds of systems for potential heat generation and other purposes. In particular, the transport of and behavior of H, D, and/or tritium in transition metal environments that have been subjected to the high strains, through electrolytic (as well as other) processes that are used to obtain the prerequisite loading conditions that are required in these experiments has definite importance for understanding the onset of the phenomena that have been attributed to the nuclear processes (associated with "cold fusion") but to more general problems associated with hydrogen-induced embrittlement and fatigue in transition metals, the transport of hydrogen into and away from transition metal hosts, and for other related purposes related to hydrogen storage, that have applicability in the development of novel, energy storage and retrieval devices.

5. The acts of the Patent Office are in violation of the Constitution, and are contrary to the advancement of the "progress of science and useful Arts." The patent office has ignored a wealth of information to the contrary including bona fide scientific exploration, sworn testimony, and significant evidence that any reasonable individual would accept. These acts have led to persecution, both indirectly and directly, inconsistencies in the literature, and have delayed relevant

science and technology. Thus, they clearly are in violation of the constitutional powers granted both by the Congress and by the Patent Office. These actions provide an additional example of an instance in which use of the name "cold fusion" has resulted in obfuscation of the relevant scientific facts, followed by actions which have resulted in further obfuscation of the relevant scientific debate. As guest editor of an ethics in science journal (*Accountability in Research*, v 8, issues #1,2 (Gordon and Breach, 2000), I recently compiled evidence from leading authorities on both sides of the debate, associated with the adjudication process. These authorities, and their associated collection of articles, reveal that not only have the claims not been adjudicated in a manifestly self-correcting fashion, but that the inadequacy of the process has resulted in a disruption of scientific and technological development.

6. As an expert on the history and adjudication of the associated controversy, I assert that the PTO has failed to distinguish between the very different sets of claims associated with measurements of high energy particles and those involving excess heat. In light of the associated confusion, the PTO has placed undue reliance on early expert opinions provided by individuals (Jones, Morrison, Huizenga, Taubes) that have no bearing either on the invention (which is related to heat measurements) or on its utility. Similarly, the opinion by Rothwell, which may be somewhat related to the invention, in point of fact, incorrectly cited by the PTO, deals only with a subsidiary issue involving Rothwell's preference for a different particular form of calorimeter. The quoted statement is entirely divorced from the key elements of the invention, which includes the usefulness of measurement of activity of a sample.

Respectfully submitted,

Scott R. Chubb, Ph.D.

Scott R. Chubb, Ph.D.

RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE - EXAMINING GROUP NUMBER 2204

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF:

Inventor : Mitchell R. Swartz
Serial No.: 07/ 339,976
Filed: 04/18/1989

SYSTEMS TO INCREASE THE EFFICIENCY, CONTROL, SAFETY AND ENERGY UTILIZATION OF ELECTROCHEMICALLY INDUCED FUSION REACTIONS

Commissioner of Patents and Trademarks
Washington, D.C. 20231

PAPER:

EXHIBIT
"16"

SN
09/750,480
cont. of
SN 07/371,937

May 16, 1995

DECLARATION OF HAL FOX SUPPORTING PETITION TO THE COMMISSIONER

I, Hal Fox, declare that I am a citizen of the United States of America.

1. I have earned the degree of Bachelor of Science in physics and mathematics from the University of Utah in 1951, an M.B.A. from University of Utah in 1972, and continued post-graduate studies with numerous science and engineering courses.

2. My fields of experience include computation for scientists, fluid dynamics, missile systems, energy systems, and systems engineering. I am also familiar with the energy producing and energy conversion devices, including those in the field of cold nuclear fusion. I have worked with missile, energy and other engineering systems for more than thirty (30) years.

3. I served in the U.S.Air Force from 1951 to 1959. I have worked in industry including Hughes Aircraft company as a missile systems engineer, and have directed research at the Fluidonics Research Laboratory (University of Utah Research Park) in fluid dynamics, and most recently with F.E.A.T., Inc. (now ENECO).

4. I am a nationally recognized expert and considered an authority on developments in the field of cold fusion – from science and business points of view because I have worked in the cold fusion field with scientists, business people, engineers and others. I began F.E.A.T. (Future Energy Applied Technology) which eventually merged and became ENECO. I was cochairperson of the International

symposium on Cold Fusion and Advanced Energy Sources in Minsk, Belarus (May 1994), and have chaired sessions and/or presented papers at other international cold fusion symposia (including ICCF-4, ICCF-5, and other international conferences).

5. I have published extensively in the energy field. I have presented papers at several international symposia (including ICCF-4 and ICCF-5). I began publishing Fusion Facts (ISSN #1051-8738) in July 1989, and have been its editor for more than five years. I have edited and published New Energy News (ISSN #1075-0045) for two years. I have studied this field closely and published analysis as well as a compendium of all publications [H. Fox, M. Swartz, "PROGRESS IN COLD NUCLEAR FUSION – METANALYSIS USING AN AUGMENTED DATABASE , presented at ICCF-5, (1995); and H. Fox, Compendium Of The World Wide Cold Nuclear Fusion Literature distributed with "*COLD FUSION IMPACT in the ENHANCED ENERGY AGE*", Fusion Information Center, Utah, (1992). The book is now translated in four languages; publication pending in Spain and Germany.

6. I am familiar with many patent applications submitted to the United States Patent Office. I would estimate that I am acquainted with many inventors in the field of cold fusion who have applied for cold fusion patents or patents in the cold fusion field, including more than ten who have discussed their inventions with me.

7. It has been my observation that the U.S. Patent Office examiners have not used their access to professional literature on cold fusion such as **Fusion Technology**, **Journal of Electroanalytical Chemistry** and **Nuovo Cimento**; publications which were or should have been available to them in the Patent Office library. Instead they have relied on articles in the Washington Post, New York Times, and other newspapers. The fact that many patent agents have been unable to obtain patents on cold fusion and yet have been able to patent other types of inventions in the normal procedure is strong evidence that the patent examiners and/or their supervisors are not acting in good faith when the subject is cold fusion.

8. It has been my observation that when inventors have been reasonably diligent and have acted in good faith in response to usual disregard of inventor's normal rights, the examiners in the U.S. Patent Office have unreasonably rejected all responses and have made it extraordinarily difficult for any of the estimated 100 or more patent applications for many varieties of inventions regarding cold

nuclear fusion to be handled in a normal manner. Few other countries have denied cold fusion inventors the rights to the fruits of their ingenuity. The most telling evidence is the fact that scores of patents on cold fusion have issued in other countries (over one-third of all patents issued have been to Japanese inventors and assignees). By contrast almost no patents on cold nuclear fusion have been granted by the U.S. Patent Office. This observation is the strongest evidence that the examiners and their supervisors in the U.S. Patent Office are responsible for the flagrant denial of inventors rights granted under the Constitution of the United States.

9. The apparent lack of normal progress in the handling of cold fusion patent applications and the international issuance of cold fusion patents has been the subject of several articles and comments written by me and others and then published in the monthly newsletter Fusion Facts during the time from July 1989 to May 1995 (the most recent article).

10. The apparent lack of the use of normal procedures in the handling of cold fusion patents has placed an enormous financial burden on the inventors and have collectively denied the inventors of the United States and their assignees and the opportunities to enjoy economic advantages from their intellectual property rights. One end result has been the lost opportunities for United States citizens to be among the world's economic leaders in this new energy technology -- despite most of the initial work beginning in the United States. The collective national economic losses might amount to billions of dollars in potential future sales revenues to U.S. businesses and enormous losses to U.S. inventors, investors, and citizens.

I declare that all statements herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Hal Fox

Date: May 16, 1995

Hal Fox
Post Office Address: Fusion Information Center
P.O. Box 58639
Salt Lake City, UT 84158
(801) 583-2963

BOARD OF PATENT APPEALS AND INTERFERENCES FOR THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor : Mitchell R. Swartz
Serial No.: 08-406,457
Filed: 3/20/1995

For: **APPARATUS TO DETERMINE THE ACTIVITY OF A SAMPLE LOADED WITH ISOTOPIC FUEL**

Group Art Unit: 2204

Examiner: Daniel Wasil

EXHIBIT "17"

SN 09/750,480 cont. of SN 07/371,937

AFFIDAVIT OF HAL FOX, Ph.D.

I, Hal Fox,Ph.D., under oath and based on personal knowledge, depose and say as follows:

1. I reside in Salt Lake City, UT. I earned a Ph.D. [Computer Science, 1983] and a Master's Degree [MBA, U of Utah, 1972]. I served in the U.S.Air Force [1952-1958] including as a meteorologist, and then worked as a Missile System Engineer for ten years. My interests are energy, engineering, and public education, and I have served as Director of the first research lab at the University of Utah Research Park, during which time I contributed to scientific research by publishing two of the major scientific periodicals describing worldwide research and engineering. I have also published over 50 technical articles around the world, and have had 15 patents issued.

2. I have read all of the relevant documents including the Board's Decision of July 29, 2001, and the original above-entitled application.

3. The Board has made a 35 U.S.C. §112, 101 rejection for failure to teach how to use the invention and a section 101 rejection for lack of utility [per M.P.E.P. §708.03(a)]. This writer, as one skilled in the art, was quick to recognize the teachings of Dr. Swartz by which a multiring calorimeter with measurement of noise, and with calibration could be used to measure activity. It is my

professional judgment that the method of measuring the activity of sample in the above-entitled action is clever, not obvious, and is an important invention with utility. Furthermore, the subject invention by Dr. Mitchell Swartz has considerable utility, not only for specific type of uses cited by Dr. Swartz, but also for a broader range of applications in both electrochemical operations and in experiments involving the handling of electrodes in some gaseous environments.

4. The Decision has ignored numerous filings delivered to the Patent Office by Dr. Swartz and others. For twelve years, this author has been involved full time in publishing information about low-energy nuclear reactions and research which have been studied in, and reported on from, over 200 laboratories in 30 countries. We have reported on research from over 3,000 papers from hundreds of laboratories in 30 countries [H. Fox and M. Swartz, 1995, "Progress in Cold Nuclear Fusion - Metanalysis using an Augmented Database", Abstracts of ICCF-5; M. Swartz and H. Fox, 1995, "Metanalysis of the Cold Fusion Literature", *Abstracts of ICCF-7*; M. Swartz and H. Fox, 1998, "Metanalysis of Research and Development in Cold Fusion", *Journal of New Energy*, 3, 2,141-142.]. From this research, many invention applications have been filed, especially by Japanese and American scientists. Over 100 low-energy nuclear reactions patents have issued in Japan and many more in European countries, as we have reported in *Fusion Facts* as each patent issued. By contrast, no patents have been allowed to issue in the U.S.

5. An estimated 300 patent applications have been sent to the U.S. Office of Patents and Trademarks by inventors using these systems, but no patents have issued citing the prior art. It is not credible that hundreds of scientists and inventors are all mistaken in their experiments and data, or that only the patent examiners are sufficiently educated to point out the faults of these inventions. Therefore, the Office of Patents and Trademarks has been denying inventors their constitutional rights to the protection of intellectual property, including the above-entitled application. Inventors in other countries have been successful in obtaining patent protection by their governments on the same topic.

Respectfully submitted,

Hal Fox

Hal Fox, PhD, MBA

United States Court Of Appeals
For the Federal Circuit

02 - 1240

(Serial No.: 08-406,457)

IN RE MITCHELL R. SWARTZ

EXHIBIT "18"

SN 09/750,480 cont. of SN 07/371,937

Appeal from the Board of Patent Appeals and Interferences

(No. 98-2593)

AMICUS BRIEF OF DR. HAL FOX

- FOR APPELLANT

Hal Fox, PhD, MBA, *Amicus Curiae*
3084 E. 3300 South
Salt Lake City, UT 84109-2154
(801) 466-8680

May 8, 2002

STATEMENT OF AMICUS CURIAE
(Fed Circuit Rule 47.5)

(1) CERTIFICATE OF INTEREST [Pursuant Rule 47.4]

Friend of the Appellant and friend of the Court certifies the following:

1. The full name of every party or amicus represented by me is:

Hal Fox.

2. The name of the real party in interest represented by me is:

Hal Fox.

3. All parent corporations and any publicly hold companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are:

NONE

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

NONE

(2) TABLE OF CONTENTS

(3) TABLE OF AUTHORITIES

(4) STATEMENT OF AMICUS CURIAE (Fed Circuit Rule 47.5)

As a friend of the court and the Appellant, the following background information is presented.

Dr. Hal Fox, the writer of this amicus brief, earned a Ph.D. [Computer Science, 1983] and a Master's Degree [MBA, U of Utah, 1972]. He served in the U.S.Air Force [1952-1958] including as a meteorologist, and then worked as a Missile System Engineer for ten years.

His interests are energy, engineering, and public education. He was director of the first research lab at the University of Utah Research Park, and has contributed to scientific research by publishing two of the major scientific periodicals consistent with low energy nuclear reactions, and describing the worldwide research and engineering. He has published over 50 technical articles around the world, and has had 15 patents issued.

Hal Fox at the time of the 1989 cold fusion announcement established the Fusion Information Center, Inc., a Utah Corporation (hereafter "FIC") located at the University of Utah Research Park, and was, before that time, the director of the first research lab at the University of Utah Research Park.

Additional information on the probative value of Hal Fox is contained in the Appellant Appendix, pages A56-A57 and A44-46, which includes further statements regarding the qualifications of Hal Fox, the submitter of this Amicus Brief.

(5) ARGUMENT - ISSUES ADDRESSED

DID THE DECISION MISREAD THE CLAIMS UNDER 35U.S.C.§112?
DID THE DECISION DISCUSS APPELLANT'S TECHNOLOGY UNDER 35U.S.C.§112?
WAS THE DECISION REBUTTED BY THE OFFICE'S OWN WITNESSES?

1. The invention of a heat-measuring multiring calorimeter and method to measure the activity of a heat-generating sample by Dr. Swartz has operability and utility. The issues of heat-generation and its measurement (calorimetry) and the organization of sample by their heat-generating activity are understood to those who work in the field. Dr. Swartz has invented an important, new apparatus, whose purpose has value for heat-measurement. In addition, the subject invention has considerable utility, not only for specific types of uses cited by Dr. Swartz, but also for a broader range of applications in both electrochemical operations and in experiments and environments.

2. The Office of Patents and Trademarks is denying this inventor his constitutional rights to the protection of intellectual property, including the above-entitled application, by calling each invention "cold fusion" (hereafter CF) and then arguing –not against the present invention of a multiring calorimeter and method to measure activity of a sample - but against CF. In this way, the Office and Board have incorrectly and inaccurately discussed the cold fusion announcement of Fleischmann and Pons (hereafter "FP"; March 23, 1989) in its Decision. It is incorrect because Dr. Swartz's invention in the above-entitled matter is not cold

fusion but an apparatus to measure heat. The Decision is inaccurate because it is no longer correct or even rational to argue that CF is a delusion, a fraud, or a mistake, as the Patent Office has asserted. The phenomenon is as real as can be said for many new discoveries, discoveries that routinely receive patent protection. Furthermore, the present invention measures heat generating activity and has uses far beyond cold fusion.

3. The invention of a heat-measuring multiring calorimeter of Dr. Swartz has operability. He has published numerous peer-reviewed articles using the multiring heat calorimetry system, and has published the system itself in many major U.S. technical journals. This important publication relevant to the present invention, and included Dr. Swartz's pleadings, has not been cited properly by the Office.

4. The Office's argument is to Dr. Swartz's invention "cold fusion" and then to argue --not against the present invention of a multiring calorimeter, but- against FP. This is unfair because the present invention is a measurement device to measure the heat-generating activity of a material. On March 23, 1989, Drs. Martin Fleischmann and Dr. Stanley Pons (FP) were required by the administration of the University of Utah to appear before the media in a press conference. Some have believed, albeit incorrectly, that this meeting was initiated by FP to tout their discovery of nuclear reactions obtained in an electrochemical cell. Said meeting was the first public announcement of the discovery of nuclear reactions observed using such equipment. The growing scientific interest resulted in many attempts to replicate the FP experiment and, in other attempts, to refute the FP results. Over twelve years, this author and the staff of FIC have been involved full time in publishing information about low-energy nuclear reactions and research which have been

studied in, and reported on from, over 200 laboratories in 30 countries. Scientifically, more than 600 of these technical papers reported on successes in replicating and/or extending the original discovery of FP [H. Fox and M. Swartz, 1995, "Progress in Cold Nuclear Fusion - Metanalysis using an Augmented Database", *Abstracts of ICCF-5*; M. Swartz and H. Fox, 1995, "Metanalysis of the Cold Fusion Literature", *Abstracts of ICCF-7*; M. Swartz and H. Fox, 1998, "Metanalysis of Research and Development in Cold Fusion", *Journal of New Energy*, 3, 2,141-142.]. Nonetheless, electrochemistry with this type of equipment is not simple and there were many papers that reported initially negative results. The desired reactions are difficult to achieve, but by the diligence of many of the researchers, some initially negative results later became positive results as the researchers learned more about the intricacies of this type of electrochemistry.

DOES THE PRESENT INVENTION HAVE CREDIBLE UTILITY?

5. The Board has made a 35 U.S.C. §112, 101 rejection for failure to teach how to use the invention and a section 101 rejection for lack of utility [per M.P.E.P. §708.03(a)]. This writer, as one skilled in the art, was quick to recognize the teachings of Dr. Swartz. Dr. Swartz has invented an important, new apparatus, whose purpose has value for heat measurement and the heat activity of various metals, chemicals, and electrodes involved in electrochemical experiments. It is a fact that any invention that can accurately determine the amount heat output from a material has considerable utility.

In addition, the subject invention by Dr. Mitchell Swartz has considerable utility, not only for specific type of uses cited by Dr. Swartz, but also for a broader range of applications in both electrochemical operations and in experiments and

environments. Undoubtedly, there are many other applications for this invention that would be recognized by those skilled in other technologies.

The invention by Dr. Mitchell Swartz is a valuable and unique contribution to the state of the art of calorimetry. It is my professional judgment that the method of measuring the heat-generating activity of a material by a multiring calorimeter as described in the above-entitled application, with measurement of noise and calibration, improves the determination of heat-generating activity, and is therefore clever, not obvious, and is an important invention with utility.

WAS THE DECISION CORRECT IN PURPORTING THAT THE MEASUREMENT OF HEAT IS "INCREDIBLE"?

WAS THE DECISION CORRECT IN PURPORTING THAT MEASUREMENT OF HEAT GENERATION (ACTIVITY) IS UNATTAINABLE?

6. The Decision has ignored numerous filings delivered to the Patent Office by Dr. Swartz and others. The following information has not been covered in the Appellant's Brief, but is important background information. In the judgment of the writer of this document, it is important for the court to understand the background of activities that have been instigated by "hot fusion" lobbyists in order to protect DOE funding for their clients. Prior to the University of Utah's press conference about FP's discovery, the U.S. Department of Energy had supported research into methods of producing nuclear reactions known as "hot fusion". The annual budget for this work exceeded $500 million per year in R&D work at both DOE national laboratories and in several major Universities. The discovery and announcement of

low-energy nuclear reactions (which the media also dubbed as "cold fusion") was deemed by some of the hot fusion adherents (hereinafter "HFA") as a threat to their continued funding. An advisory committee was formed by the HFA which visited several U.S. laboratories in which positive results in the replication of the FP work had been achieved. This committee examined evidence of success in several laboratories in which excess thermal energy was obtained; neutron production was measured; and tritium and/or helium byproducts were measured. The HFA committee's report cited inadequacies of proof in all cases. A group of HFA's at MIT purported to replicate the FP work and reported "negative" results. It was later shown that they actually had produced excess thermal energy, and were not accurate in reporting what the data had shown. The published "negative" paper from this group, Alibagli *et alia*, has been used by the Office of Patents and Trademarks (along with articles from newspapers reporting negative results for FP's work) as evidence that "cold fusion" was not acceptable science. This erroneous paper has been cited improperly by the Office. A fund by the HFA was provided for Gary Taubes (through Random House) to write an attack on "cold fusion". The result was an inaccurate, slanted, selected, report which attacked the evidence of such low energy nuclear reactions. Taubes' opinion has been cited by the Office as though it was scientific evidence. Corroborating this, it has been reported to me that telephone calls were made by the HFA to select departments (mainly Chemistry and Physics departments) of major universities. The message was: "If you have so much as a graduate student working on cold fusion, you will get no contracts out of Washington."

HAS THERE BEEN A COMPLIANCE WITH THE UNITED STATES CONSTITUTION AND THE CONGRESSIONAL WILL?

7. From this research, many invention applications have been filed, especially by Japanese and American scientists. Over 100 low-energy nuclear reactions patents have issued in Japan and many more in European countries, as we have reported in *Fusion Facts* as patents were issued. By contrast, no patents have been allowed to issue in the U.S. An estimated 300 patent applications have been sent to the U.S. Office of Patents and Trademarks by inventors using these systems, but no patents have issued citing the prior art. It is not credible that hundreds of scientists and inventors are all mistaken in their experiments and data, or that only the patent examiners are sufficiently educated to point out the faults of these inventions. Therefore, the Office of Patents and Trademarks has been denying inventors their constitutional rights to the protection of intellectual property, including the above-entitled application. Inventors in other countries have been successful in obtaining patent protection by their governments on the same topic. Inventors in other countries have been successful in obtaining patent protection by the governments.

8. The end result of the above activities has been the following:

Lack of education in the United States because few, if any, accurate articles on "cold fusion" have appeared in any major publications except *Fusion Technology*.

Lack of intellectual property development in the United States because although many "cold fusion" patents issued abroad, no patents were allowed to be issued in the U.S.

Lack of science and engineering development because little research and development is occurring at major U.S. universities, few corporations have invested heavily in low-energy nuclear reactions, and there is still no official DOE support.

Lack of security of the United States.

Respectfully submitted,

May 8, 2002

Hal Fox, PhD, MBA

(6) CERTIFICATE OF COMPLIANCE (Rule 32 (a) 7)

The writer of this Brief hereby certifies that he has complied with Rule 32(a) (7) and that there are ~2477 words using 14-point proportional font in this Amicus Brief.

Hal Fox, PhD, MBA.

(7) STATEMENT OF CONSENT

The writer of this Brief certifies that he has gained consent of the Appellant to participate as an amicus. I have spoken to Dr. Mitchell Swartz who has consented to my request. I have been informed that Appellee's Attorney has also agreed and will not oppose this Brief.

Hal Fox, PhD, MBA

(8) CERTIFICATE OF SERVICE

The writer of this Brief certifies that two (2) copies of the above has been mailed first class prepaid to Appellee's counsel, Attorney Thomas Krause, Associate Solicitor, P.O. Box 15667, Arlington, Virginia, 22215 this May 8, 2002.

Hal Fox, PhD, MBA

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF: Inventor : Mitchell R. Swartz Serial no. 07/ 371,937 Filed: 06/27/89 For: SYSTEMS TO MONITOR AND ACCELERATE ELECTROCHEMICALLY INDUCED NUCLEAR FUSION REACTIONS WITHIN A MATERIAL	PAPER: Group Art Unit:2204 Examiner: D. Wasil

EXHIBIT
"19"

SN
09/750,480
cont. of
SN 07/371,93

Declaration of Dr. Eugene F. Mallove

Commissioner of Patents and Trademarks
Washington, D.C. 202312

1. I, Eugene F. Mallove, declare that I am a citizen of the United States of America. I have earned the degree of Doctor of Science in Environmental Health Sciences from Harvard University [1975], as well as two degrees from the Massachusetts Institute of Technology [Master of Science and B.S. in Aeronautical and Astronautical Engineering (1969, 1970)].

2. I have worked as an engineer and scientist for more than fifteen years in the fields of aeronautical engineering, space propulsion, astrodynamics, inertial navigation, celestial mechanics, planetary physics, space communication and physics, coherent optical scattering and hydrogen isotope loading into various metals.

3. I am the Editor-in-Chief of the science and technology magazine "COLD FUSION," the premier edition of which is expected to appear on the newsstands by around April 1994. It is also available by subscription. In little over a month of solicitation, the magazine has acquired many dozens of subscribers from technical and industrial organizations.

4. I have published extensively, including in the field which the above-entitled invention resides. Furthermore I was the Chief Science Writer for the MIT News Office during the announcement of cold fusion in March 1989, and have followed the development of the field very closely since that time. My book in this field ("**Fire from Ice: Searching for the Truth Behind the Cold Fusion Furor**", John Wiley & Sons May 1991 (nominated for the Pulitzer Prize) has followed my other publications (as author or contributor) including **The Quickening Universe: Cosmic Evolution and Human Destiny**, **The Starflight Handbook: A Pioneer's Guide to Interstellar Travel**, and contributions to the Physics Section of the **Almanac of Science and Technology** (San Diego). Other relevant background includes my programs with the Voice of America [United States Information Agency], and my contributions to MIT's **Technology Review**, **The Washington Post**, **The Planetary Report**, **Air & Space**, and **Sky & Telescope**.

5. I have studied the Examiner's cited reference (Huizenga) and the arguments presented below. I hereby respectfully submit that these statements and opinions of the Office are incorrect.

6. The Examiner states that cold fusion does not exist; that it is "an unproven concept".

> *"The invention is considered as being based on the "cold fusion" concept. This concept relies on the incorporation of a hydrogen isotope (deuterium) into a metal host (e.g., palladium) at a relatively low (cold) temperature for nuclear energy generation, such as the type disclosed by appellant. However, as set forth more fully below, this "cold fusion" concept is still no more than just an unproven concept.*
>
> [Appeal Brief of Examiner Wasil, undated, mailed January 13, 1994]

7. The Examiner is incorrect in a reliance upon the text by Dr. John R. Huizenga, entitled **Cold Fusion: Scientific Fiasco of the Century,** [University of Rochester Press, 1992].

> *"For example note Huizenga (Cold Fusion : The Scientific Fiasco of the Century, 1992). Huizenga was Co-Chairman of the United States Department of Energy - Energy Research Advisory Board Cold Fusion Panel which investigated "cold fusion" issue. Huizenga concluded that there is a lack of convincing evidence concerning neutron generation/nuclear fusion reactions of the "cold fusion" type."*
>
> [Appeal Brief of Examiner Wasil, undated, mailed January 13, 1994]

8. Attention is directed to the simple fact that Dr. Huizenga ignores essentially all the positive evidence for cold fusion. Dr. Huizenga leaves out virtually everything after 1989. Dr. Huizenga says nothing about the confirming, yet ultra-cautious, cold fusion work carried out at the conservative Electric Power Research Institute. The evidence cited by the Examiner shows that Dr. Huizenga denies that a major cold fusion effort is under way in Japan.

9. On the other hand, Dr. Huizenga neglects to mention the cold fusion controversy about the MIT PFC "negative" cold fusion experiment and the continuing contention regarding the California Institute of Technology "negative" cold fusion experiment. There exist considerable evidence that these studies have major problems, and may have in fact shown excess heat.

10. The continuing news of successful and provocative cold fusion research in Japan, $12 million funding for cold fusion from the private Electric Power Research Institute (EPRI) in the U.S., and recently initiated multi-million dollar funding by the Japanese Ministry of International Trade and Industry (MITI) stands in complete contrast to what is reported in Huizenga. His two favored villains, Pons and Fleischmann, are hard at work at a laboratory in France funded by the Japanese Technova Corporation, and report having achieved reproducible boiling in cold fusion cells, which has vaporized all the heavy water electrolyte -- over and over again. Their latest calorimetry work has been independently reviewed by physicist Dr. Wilford N. Hansen, who finds it completely sound.

11. Spectacular results have regularly been reported in Japan in the cold fusion field -- from reproducible, million-neutron bursts in solid state fusion at the Nippon Telephone and Telegraph Laboratory (NTT -- the "Bell Laboratory" of Japan) to the work of hot fusion physicist Professor Akito Takahashi at Osaka University, who has been detecting cold fusion neutrons for the past three years; he recently has confirmed the continuous, correlated emission of neutrons and scores of watts of excess energy from a single cell for a sustained period of about three months.

12. Dr. Huizenga doesn't report any of the cold fusion evidence. He says that every bit of it can be characterized in two words -- "*pathological science*." He says that all these hundreds of scientists in over a dozen countries still working or interested in cold fusion are deluded with "pathological science".

Excess heat in cold fusion experiments is illusory, says Huizenga.

Tritium generation found by over 40 cold fusion groups is a vast mistake, says Huizenga. However, the facts appear to contradict Dr. Huizenga, and many are listed in my book on pages 246-248.

13. Huizenga's opinion of cold fusion at the very outset of the controversy is documented in **Cold Fusion: Scientific Fiasco of the Century**. In describing his appointment to head the ERAB panel, Huizenga explicitly declared his bias:

> "*My initial feeling was that the whole cold fusion episode would be short-lived and that it would be wise to delay appointing such a panel.*"
> (Huizenga, **Cold Fusion: Scientific Fiasco of the Century**, p.42)

14. Many other things are mysteriously missing from **Cold Fusion: Scientific Fiasco of the Century**. Although the group is mentioned by name, we read nothing of the pioneering work of Dr. Michael McKubre and his EPRI-funded group at SRI in Menlo Park, California. This team is widely acknowledged to have done some of the most careful cold fusion calorimetry in the world. It is unconscionable Dr. for Huizenga not to discuss Dr. McKubre's and so much other positive work.

15. Dr. Huizenga devotes only one paragraph to the 2nd Annual Conference on Cold Fusion in Como, Italy, held in July, 1991. He says nothing about the new findings that were presented there, which were numerous and impressive. In fact, world-class electrochemist Dr. Heinz Gerischer of the Max Planck Institute

attended the conference as a skeptic; he left convinced that nuclear reactions at some level were, indeed, occurring in metal lattices. Later Dr. Gerischer wrote in a memo to the German government:

> **"The fact that in the Republic of Germany this work has been inhibited is no longer justified. It could, later on, be regarded as a very unfortunate gap in German research when compared with the present activity in other countries and particularly in Japan."**

16. Another incorrect statement appears in Huizenga on page 171:

> *"The lack of papers [at the first annual conference, 1990] from Japan was inconsistent with propaganda from Utah and from stories written by selected reporters claiming spectacular advances in cold fusion by the Japanese." And, "..cold fusion after one year was essentially a United States phenomenon, except for pockets of activity in India and Italy."*
> [Huizenga, **Cold Fusion: Scientific Fiasco of the Century**]

This is completely untrue and Huizenga could easily have learned this before his book came out. Many major Japanese universities, and quite a few Japanese industrial firms, have on-going research in cold fusion that is accelerating.

17. Huizenga is thus very selective in his presentation of the facts. The Final Report of the Utah National Cold Fusion Institute (1991) was available to him and contains clear descriptions of reproducible tritium generation in experiments by the ultra-cautious electrochemist Dr. Fritz Will (who was less convinced about the nuclear explanation for excess heat).

18. In addition, although Huizenga states:

> *"There has been no sign of this growth of understanding of cold fusion either in the production of fusion products or excess heat."*
> (Huizenga, **Cold Fusion: Scientific Fiasco of the Century**]

However, it is well known and reported in the open literature that McKubre's groups, and others, have achieved near reproducible excess power in cold fusion cells. Many the groups have recently stated that achieving high levels of deuterium-to-palladium atom loading (D/Pd ratio) were key to provoking the phenomena. Therefore any system to monitor the loading would have utility.

20. The ICCF-4 conference presented even more papers confirming both the existence and utility of this field. Excess heat was found by over two-dozen research groups. Startling nuclear effects were found by many others: low level neutron emissions, tritium, helium-4, charged particles, and even isotope changes and element transmutations that could be seen by gamma ray spectroscopy, among other convincing tests.

21. "COLD FUSION", of which I am the editor, joins several journals and newsletters already in this field which continuously publish new papers showing positive results. These include **FUSION FACTS** and **COLD FUSION TIMES** which supplement **Fusion Technology**, and even now **Physics Letters A** and the **Journal of Electroanaytical Chemistry**. The number of these publications is increasing, which demonstrates both the existence of and growth of this field.

I declare that all statements herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: Feb 6, 1994

Eugene F. Mallove

Dr. Eugene F. Mallove
Editor, "COLD FUSION"
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United States Court Of Appeals
For the Federal Circuit

EXHIBIT
"20"

SN
09/750,480
cont. of
SN 07/371,93

02 - 1240
(Serial No.: 08-406,457)

IN RE MITCHELL R. SWARTZ

Appeal from the Board of Patent Appeals and Interferences
(No. 98-2593)

AMICUS BRIEF
OF DR. EUGENE MALLOVE

- FOR APPELLANT

Eugene F. Mallove, Sc.D., *Amicus Curiae*
New Energy Research Laboratory (NERL)
Bow Technologies Center, Bow, NH
(603) 228 4516

May 8, 2002

(1) CERTIFICATE OF INTEREST [Pursuant Rule 47.4]

Friend of the Appellant and friend of the Court certifies the following:

1. The full name of every party or amicus represented by me is:

Dr. Eugene Mallove.

2. The name of the real party in interest represented by me is:

Dr. Eugene Mallove.

3. All parent corporations and any publicly hold companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are:

NONE

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

NONE

(2) TABLE OF CONTENTS

(3) TABLE OF AUTHORITIES

4) STATEMENT OF AMICUS CURIAE (Fed Circuit Rule 47.5)

As a friend of the court, the following background information is presented.

Dr. Eugene Mallove holds a Master of Science Degree (SM, 1970) and Bachelor of Science Degree (SB, 1969) in Aeronautical and Astronautical Engineering from the Massachusetts Institute of Technology and a Science Doctorate in Environmental Health Sciences (Air Pollution Control Engineering) from Harvard University (1975). Dr. Mallove's experience includes work at Hughes Research Laboratories, TASC (The Analytic Science Corporation), and MIT Lincoln Laboratory.

Dr. Mallove has also served as a senior science writer and broadcaster with the Voice of America [Washington, DC] and as Chief Science Writer at the MIT News Office during the DOE ERAB report in 1989 cited by the Office. He has taught science journalism at MIT and Boston University and has written science and technology articles for magazines and newspapers, including MIT Technology Review, and The Washington Post.

Dr. Eugene Mallove is the author of three science books for the general public, including the Pulitzer-nominated book "Fire from Ice: Searching for the Truth Behind the Cold Fusion Furor (John Wiley & Sons, 1991)". Since 1995, he has been the Editor-in-Chief and Publisher of the bimonthly Infinite Energy Magazine [Concord, New Hampshire with subscribers in 40 countries] and operates the New Energy Research Laboratory (NERL) at the Bow Technologies Center in Bow, NH.

Additional information on the probative value of Dr. Mallove is contained in the Appendix of 02-1240 which includes further statements regarding the qualifications of Dr. Mallove, the submitter of this Amicus Brief.

(5) ARGUMENT

In reviewing the Board Of Patent Appeals and Interferences decision (App. Bd.) in the Swartz case (Fed. Cir. 02-1240), the following is made clear and as a friend of the court, the following background information is presented.

Did The Decision Discuss Appellant's Technology under 35U.S.C.§112?
Was the Decision Rebutted by the Office's Own Witnesses?

1. The Decision references material inappropriately and out-of-context, including from researchers finding solid experimental evidence to support cold fusion phenomena, to make the false-negative case that these phenomena "do not exist", or that they are due to experimental errors. The Decision is unsupportable and evidently reflects an extremely biased opinion. First, it does not refer to the Applicant's work. Second, the comments regarding Jed Rothwell are incorrect. Third, the Office is wrong about cold fusion.

2. In an egregious out-of-context citation, the Decision employs an excerpt from Jed Rothwell's commentary and review of a 1997 conference in Vancouver. He attended a five day meeting involving more than a hundred papers and posters. Based upon his brief recall of events, the Decision uses his brief, and often imprecise, words out-of-context. Mr. Jed Rothwell is not a scientist or an engineer. He has never seen Dr. Swartz's work or equipment. Rothwell has no immediate knowledge of said device and no ability to technically assess it. He is a computer programmer and salesman.

bigotry has no place in the evaluation of applications before the USPTO or in the Federal government.

It is quite clear that measuring activity of sample using a multiring calorimeter is a utility that is fully independent of the investigation of cold fusion phenomena, though it is certainly also true that activity measurements are crucial in the cold fusion field, too.

Was The Decision Correct in Purporting That the Measurement of Heat is "Incredible"?

Was The Decision Correct in Purporting That Measurement of Heat Generation (Activity) Is Unattainable?

7. Cold fusion is real. The early and inexorable build-up of confirmatory scientific literature shows evidence of excess heat and nuclear products tritium and helium production. This has been discussed in "Fire from Ice" [Dr. Eugene Mallove, John Wiley & Sons, 1991; consult, for example, the 34 primary references cited] and *Infinite Energy,* 10th Cold Fusion Anniversary Issue, Issue #24 which has discussed in detail the historical and scientific perspectives, excess heat, and nuclear products. These are a small subset of a much larger universe of confirmatory results in this field.

8. The Board cites Harwell, Caltech, and MIT in its attack against the Swartz Application. In particular, "Fire from Ice" and *Infinite Energy,* 10th Anniversary Issue (#24) collect and summarize the published scientific literature that conclusively demonstrate the poor scientific foundations of the cited MIT, Caltech, and Harwell early experiments (the so-called "null" results regarding the existence of Excess heat in Pons/Fleischmann-type cells). Therefore, these citations are without merit, or at the very least, are open to significant scientific and legal challenge. One cannot legitimately cite faulty or, in the case of MIT PFC data, potentially fraudulent data by MIT PFC Phase-II which is, in fact, now entered into the investigation process of the Inspector General's offices in two (2) federal agencies (DOE and SBA).

9. This citation of Huizenga is appalling, and is egregiously out of place in this Appeals case. First, it is not relevant. Second, those were most certainly not the motivations of Fleischmann and Pons nor others. This Huizenga claim is nonsense, as the historical record shows. It is the kind of statement that one would expect from a biased man who in his own book "*Cold Fusion: The Scientific Fiasco of the Century*" admits that he told federal authorities, intent on putting him in charge of investigating the matter of cold fusion, that any investigation was not be needed because the whole matter was wrong minded and expected to blow away. In contrast, as discussed in detail in "Fire from Ice" and *Infinite Energy,* 10th Anniversary Issue (#24) and as the evidence and literature amply demonstrate, the field of cold fusion science and technology most certainly did not evaporate.

10. The "credibility" of the early DOE ERAB panel cited by the Board is a bogus "argument from authority." In fact, one of the twenty two ERAB cold fusion panel people, Dr. William Happer is on record as stating that "*just by looking at Pons and Fleischmann on television, you could tell they were incompetent boobs.*" (Taubes, *Bad Science*, p.305) This heralds the absence of integrity and credibility, and the presence of bias, of said investigative panel cited by the Board.

11. The reliance of the Board on Huizenga is wrong. Huizenga is not a valid or final authority in the field today. His role as a scien ist was admitted to be biased from the outset and he has never performed the quality work required for experimentation in this field. Therefore, his statements cannot outweigh the evidence provided by others of greater diligence and perceptivity who continue to work in the field. The USPTO is continuing a struggle against scientific reality that it cannot win.

Has there been a compliance with the United States Constitution and the Congressional will?

12. The most notable characteristic of the attack against the Swartz patent application at hand is its stale fixation with misrepresented events of 1989, its citation of erroneous reports, and its continued argument from supposed authority, rather than from evolved science and meticulous experiment. I find the arguments a

travesty so much so, that I am of the firm opinion that action at the Executive or Congressional level may be required to break through this faulty process.

Respectfully submitted,

Eugene F. Mallove, Sc.D.

May 8, 2002

(6) CERTIFICATE OF COMPLIANCE (Rule 32 (A) 7)

The writer of this Brief hereby certifies that he has complied with Rule 32(a) (7) and that there are ~2225 words using 14-point proportional font in this Amicus Brief.

Eugene F. Mallove, Sc.D.

(7) Statement Of Consent

The writer of this Brief certifies that he has gained consent of the Appellant to participate as an amicus. I have spoken to Dr. Mitchell Swartz who has consented to my request. I have been informed that Appellee's Attorney has also agreed and will not oppose this Brief.

Eugene F. Mallove, Sc.D.

8) CERTIFICATE OF SERVICE

The writer of this Brief certifies that two (2) copies of the above has been mailed first class prepaid to Appellee's counsel, Attorney Thomas Krause, Associate Solicitor, P.O. Box 15667, Arlington, Virginia, 22215 this May 8, 2002.

Eugene F. Mallove, Sc.D.